

FINANCIAL TIMES

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D 8523 B

Arms control: Soviet tactics take a new turn, Page 17

World news Business summary

Brixton rioters leave trail of damage

Rioters in the South London district of Brixton left a trail of injury, damage and looted shops. At least 53 people - including 10 policemen - were hurt during the night of clashes, sparked by the accidental shooting by police of the mother of a man wanted for questioning in connection with an armed robbery. Four buildings were damaged, including two which were completely gutted by fire, and police reported more than 130 major crimes at the time, of which 58 were burglaries. Police have set in motion an inquiry into the shooting. Page 18

S. Africa deaths

Seven blacks died in a weekend of township violence in Johannesburg, South Africa, as conflicting predictions circulated on whether President P. W. Botha would outline major apartheid reforms in a speech today. Page 18

Airport reopens

Beirut airport has reopened, 24 hours after shells crashed into the main terminal building during Muslim-Christian fighting. Page 18

Separatist victory

Melanesian separatists won control in elections of three out of four regions of the Free Territory of New Caledonia in the South Pacific. Page 3

New President

Eriz Arzob del Valle was sworn in as President of Panama as Nicolas Ardito Barletta resigned less than a year into his term. Page 3

Paris protest

Several hundred people demonstrated in Paris calling on Moscow to allow Jews to emigrate. Soviet leader Mikhail Gorbachev is due to visit the city on Tuesday. Page 3

Missile denial

North Korea has denied a Japanese news report that the Soviet Union was shipping missiles to Iran via North Korea and Syria. Page 3

5,000 protest

About 5,000 demonstrators clashed with police, smashed store windows and looted last night in Frankfurt after a demonstration on Saturday against a Neo-Nazi party meeting in which a protester was killed by a water cannon truck and 22 police injured. Page 3

Sikh clashes

One person died in clashes between moderate Sikhs and supporters of the widow of one of Indira Gandhi's alleged assassins as the new Sikh government of Punjab State was sworn in. Page 2

Mugabe on merger

Zimbabwe's Prime Minister Robert Mugabe said a successful merger between his ruling party and the main opposition party of Joshua Nkomo would not affect his government's socialist programmes. Page 2

Coup arrests

More than 100 people have been arrested in Sudan in connection with an abortive coup attempt by southern Sudanese in Khartoum last week. Page 2

Death sentence

A man who made massacre from chimney soot which harmed women's eyes has been sentenced to death by firing squad in the northern Caucasus region of the Soviet Union. Page 2

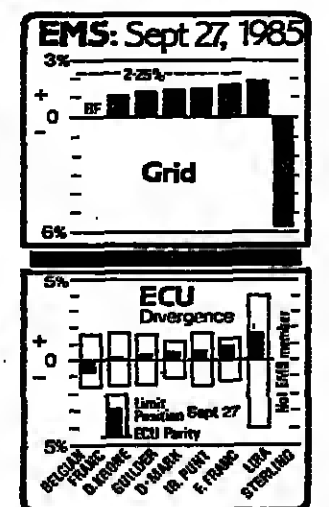
Haughey rescued

Former Irish prime minister Charles Haughey was rescued from a life raft off the southern tip of Ireland after his yacht sank. He was unhurt. Page 2

BA in 'lone push' for fares flexibility

BRITISH Airways intends to act alone in seeking more liberal regulations covering fares and services on European routes. The move is seen as a breach in the previously united European airlines industry. The split emerged after a meeting of the Association of European Airlines in Brussels on Friday which was called to liberalise European air transport. Page 18

TOKYO: Share prices closed higher on Saturday with domestic-oriented stocks reversing earlier declines. The Nikkei-Dow market average rose 54.30 to 12,593.01. Page 18



EUROPEAN Monetary System: The Belgian franc lost ground within the EMS last week and the Belgian central bank intervened in currency markets to lend support. Pressure on the franc developed as the D-Mark rose sharply against the dollar, following the five-nation agreement to reduce the value of the dollar. The strength of the D-Mark depressed other EMS currencies as well as traders bought the German currency in preference to others. Although weaker, the Belgian franc remained comfortably within its divergence limit. The chart shows the two constraints on European Monetary System exchange rates. The upper grid, based on the weakest currency in the system, shows the franc's value which may move more than 24 per cent. The lower chart gives each currency's divergence from its 'central rate' against the European Currency Unit (ECU), itself a basket of European currencies.

U.S. TRADE representative Clayton Koppert is preparing to lead a delegation to the U.S. Congress and American business interests on proposed liberalised trade talks between Washington and Canada. Page 4

MALAYSIA'S highest ever stock market launch starts today with the issue of 30 per cent of Malaysian Airline System's capital which will raise 180m ringgit (\$77m). Page 19

ITALIAN Government authorised the opening of a Euro-bond market, clearing the way for the issue of lire-denominated foreign bonds. Page 19

WORLD semiconductor industry will make a dramatic recovery next year, according to the Semiconductor Industry Association, which predicts sales growth of 18 per cent. Page 4

GOLD, U.S. electronics group which has suffered heavy losses on its semiconductor operations, refused to comment on reports that it was having talks on a possible takeover by Siemens, the West German electrical giant.

GUATEMALA offered to acquire the 16 per cent of Abitibi-Price, the Toronto-based newsprint and forest products group, which it does not already control for C\$85m (\$69.8m). Page 19

ATLANTIC Richfield Company (Arco), Santa Fe Minerals Asia Incorporated and the China National Offshore Oil Corporation have signed a contract reportedly worth \$500m to develop a gas field in the South China Sea. Page 4

DEBT rescheduling has taken much of the heat off the world's debt crisis, but interest payments on debt remain a problem. Statistical trends, Page 6

Saudi Arabia adopts tough stance on Opec output

SAUDI ARABIA is going into the meeting of the Organisation of Petroleum Exporting Countries (Opec) this week more determined than ever to confront the other members and have them reduce their oil production, so that its own can be raised, writes Michael Fields in Riyadh.

In recent months Saudi Arabia has been the only member of Opec that has not been cutting its prices directly or indirectly and in consequence its exports in August fell to little more than 1m barrels a day (b/d) from more than 9m b/d four years ago.

To raise its output, the Kingdom has recently negotiated a series of "backstop" deals with Exxon, Texaco and Mobil involving the sale of its oil at market prices less the cost of freight and refining. The deals, which involve at least 800,000 b/d in extra production, are due to come into operation tomorrow. It is thought in Saudi Arabia that they

might not be implemented or could be quickly terminated if the other members agree to abide by official pricing policies at the Opec meeting.

The Kingdom's production this month has already risen from below 2m b/d to about 3m b/d, giving exports of some 2.3m b/d. If this level of output is maintained or increased, it may trigger a pricing war, in which Saudi Arabia's oil minister, the Oil Minister, warned earlier this month could lead to per barrel rates dropping to \$15-\$16 after the winter.

An indication of the determination that lies behind the new production policies was given last week by King Fahd in a question and answer session with students at the Umm al-Qura University in Mecca.

"Nobody has the right to object to the Kingdom's oil policy under special circumstances," he said. "I don't object to others' policies. I

don't expect objections to the Kingdom's policies. The apparent toughening of Saudi policy, which in the past has often been marked by strong words but a reluctance to back threats with action, is not the result of any major debate in the country.

Rather, it seems likely that a significant number of prices and businessmen have complained to the King that conditions are becoming intolerably difficult, and the King has felt forced to act.

No debate on oil policy exists even though the economy is strained.

Sheikh Yamani, and Petromin, the state oil company under its governor Abdul-Hadi Taber, strongly oppose public discussion of oil matters. Newspapers have been persuaded not to run features on oil and senior civil servants who have sometimes expressed opinions in favour of a more free market ap-

proach have been discouraged from repeating their views.

The King, who makes the final decisions on issues relating to oil, has been exposed almost exclusively to the views of his Oil Minister, who gives less emphasis to the operation of market forces. Our Middle East Staff writes: the first shipment of Iraqi oil from Yanbu on Saudi Arabia's Red Sea coast was made at the weekend with a cargo destined for Petrobras of Brazil.

Iraq's new export outlet with a capacity of 500,000 b/d via Saudi Arabia's trans-peninsula pipeline system presents a major new threat to Opec's willing efforts to maintain prices.

Baghdad is planning average sales of 400,000 b/d from Yanbu in the fourth quarter without any matching reduction in exports via the pipeline system to Ceylon on Turkey's south-eastern Mediterranean coast. This ran at a record level of 1.1m b/d in July, but fell to 920,000 b/d in August.

Iraq has given notice that it wants Opec's agreement to an increase in its output quota from the present 1.2m b/d to at least 1.8m b/d, but will maximise exports regardless, if the assent of other members is not forthcoming.

With Iran's exports cut to a trickle, meanwhile, Mr. Ali Akbar Hashemi Rafsanjani, the Speaker of the Parliament in Tehran, hinted at retaliation against Iraqi exports. "It is possible that we will deploy another great force towards the pipes which go to Turkey and pass near Syria," he said, warning that Iran would regard the Saudi trans-peninsula pipeline system as a strategic target if oil was pumped through it.

Iraq yesterday said that its Air Force had mounted another raid, the sixth in as many days, on Iran's Kharg Island oil terminal.

Italy aims for real cut in public borrowing

By James Buxton in Rome

THE ITALIAN Government is aiming to reduce its public sector borrowing requirement in real terms next year in the budget and finance Bill it will present to parliament today.

The budget entails reductions in government spending and rises in charges for services provided by the state. But the cut in spending is much less than some ministers, including Sig. Giovanni Goria, the Treasury Minister, had suggested were necessary if Italy was to get its runaway deficit under control.

The Government expects a deficit this year of L108,700bn (\$59.2bn), which by its calculations will be 15.8 per cent of gross domestic product (GDP). For 1986 it is aiming at a target of L110,000bn - 14.6 per cent of GDP, which is expected to rise next year by between 2.5 and 3 per cent. The proportion of the deficit to GDP will still be well above the level of most industrial countries.

Under the measures agreed by the Cabinet late on Saturday, however, the deficit would approach L114,000bn. Unless the deficit grows at a slower rate than expected, further spending cuts or measures to raise revenue will be necessary if the Government's target is to be met.

"We've done a good job," said Sig. Bettino Craxi, the Prime Minister, after the Cabinet meeting. "We haven't resolved every problem, as is natural."

The Government is not raising taxes in 1986, and intends to reform the income tax system in a way which will reduce revenues next year.

Rome nevertheless intends to cut its borrowing requirement next year by L2,750bn. Health spending will be contained by raising prescription and other charges, while health insurance contributions will go up, with the burden falling mainly on employers.

The indexation mechanism for pensions is to be applied only every six months instead of every three months. Some welfare benefits are to be reduced. Families with only one child will no longer receive child benefit.

Concessional rates for electricity and telephone charges are to be cut, and charges for school and university will rise.

Legislation is to be drafted to enable local authorities to levy their own taxes in order to compensate for reduced transfers from the state.

The budget and finance bills have to be approved by parliament by the end of the year.

U.S. welcomes arms proposal but insists on SDI research

BY NANCY DUNNE IN WASHINGTON

REAGAN ADMINISTRATION officials yesterday welcomed news of forthcoming Soviet proposals in Geneva for cutting strategic offensive arms up to 50 per cent, but insisted that they would not give up research and testing of defensive systems allowed under a previous treaty.

Mr George Shultz, the U.S. Secretary of State, said the Soviet Union would present counter-proposals to the intermediate weapons and strategic arms group in Geneva on Monday and Tuesday, while also presenting proposals to the defence group. "This might be the way to get around Soviet preconditions that link talk on offensive weapons to President Ronald Reagan's Strategic Defence Initiative (SDI)," he said.

But he insisted: "Any deal on research would be ridiculous. There is absolutely no way to verify whether it is being observed." He said President Reagan simply wanted to know through research if it is possible to defend against ballistic missiles. "That answer can be gotten within the anti-ballistic missile treaty," he said.

In general, interviews over the weekend, U.S. officials expressed concern about the details of the Soviet proposals for cutting offensive weapons and questioned whether they involved reductions in large land-based intercontinental missiles which can strike U.S. missile sites.

Mr Richard Perle, the hardline Assistant Secretary of Defence, called the Soviet proposals a "throwback to the 1970s" and predicted that "they will attempt to define reductions in a self-serving way... That is, reducing systems on our side when comparable systems are not reduced on their side."

"They want to halt the U.S. (SDI) programme and to confine it to it"

won't go forward, while they continue with their own research," he said.

Senator Albert Gore, observer at the Geneva arms control talks, insisted that it was impossible to limit the talks to offensive weapons.

The development of anti-missile defences will force both sides to increase their offensive missiles in order to penetrate the defensive shield, he said.

The new Soviet proposals might make it possible to get an agreement which would eliminate the ability of either side to benefit from a first strike, the Democratic Senator said. He recommended that the Administration use the SDI programme as a bargaining chip and at the same time work towards defining a "variable distinction and boundary between permanent research and development of the kind which would lead us down the road to deployment."

Mr Perle, however, said the Administration is not interested in discussing definitions of research and testing laid down under a previous treaty. These, he insisted, were perfectly clear to the Soviets in the years they were working hard on their own star wars programme.

Mr Shultz said that while the U.S. wanted to reduce nuclear weapons, it would not agree to something like to have a deal for President Reagan to sign at his summit meeting with the Soviet leader, Mr Mikhail Gorbachev, in November.

One official said the Soviet Union may propose elimination of medium-range missiles in Europe. If the Americans are perceived to be scuttling the Soviet proposals for the sake of the star wars programme, he said, Moscow may then be able to divide the U.S. and its allies.

Soviet habits change, Page 17

Move to open ADR trading to UK firms

By Barry Riley in London

THE LONDON Stock Exchange is moving to allow U.S. associates of its member firms to take part for the first time in the burgeoning New York market in UK stocks repackaged as American depositary receipts (ADRs).

The rule amendment by the London exchange's council comes as New York securities markets prepare to open 30 minutes earlier from today, another reflection of the growing competition between international markets. The start of trading on the New York and American exchanges is being brought forward to 8.30am New York time.

At present, London firms and their overseas subsidiaries are barred from trading in dual capacity - that is, as both brokers and market-makers - in any UK-listed stock. But specially constituted "international dealers" are permitted to operate on a dual-capacity basis in foreign stocks.

This has led to the anomaly that British firms are shut out of the highly active New York market in the ADRs of stocks such as ICI, Glaxo, and BAT Industries.

The restriction has remained in place to protect the central market in such stocks in London. But it is now thought that the market in New York has become so active and independent that the rule is counter-productive and is damaging British firms.

The change is thought to be sensitive, however, and an extended consultation period is being allowed to give time for objections to be lodged. It is not likely that the change will take effect before October 22.

Elaborate rules will remain in place to prevent the erosion of the strict separation of broking and market making, which will remain in force in London until the "big bang" restructuring of the market in approximately a year's time.

Thus, New York offshoots of British securities firms will be able to trade in dual capacity in UK ADRs but only on behalf of clients resident in North America.

Hussein's offer of direct talks divides Israel

BY WALTER ELLIS IN JERUSALEM

KING HUSSEIN's offer of direct negotiations on a Middle East peace agreement with Israel exposed deep divisions within the coalition Government in Jerusalem yesterday.

The offer, made in a speech to the United Nations General Assembly on Friday, was welcomed by Mr Shimon Peres, the Israeli Prime Minister. He was quick to acknowledge that this was the first time the King had spoken of direct talks - a long-standing Israeli objective.

But the right-wing Likud group reacted to the idea with hostility. In line with its refusal to consider a relaxation of authority over the occupied territories, the disagreement was accompanied by confusion and the Israeli Government is to seek clarification from the U.S. over precisely what the Jordanian monarch said.

In his address to the General Assembly King Hussein said: "We are prepared to negotiate, under appropriate auspices, with the Government of Israel, promptly and directly, under the basic tenets of Security Council resolution 242 and 338."

He was insistent that the framework for any negotiations should be an international conference under UN auspices and with the participation of the Soviet Union - a proposal rejected by the U.S. and Israel. King Hussein is today scheduled to have talks with President Reagan in an attempt to reactivate the Middle East "peace process" and in particular to bring about a dialogue between a joint Jordanian-Palestinian delegation and U.S. officials.

Their meeting takes place in the wake of President Reagan's notification of the Administration's intention to sell Jordan an arms package including 40 F-16 or F-20 fighters and mobile Hawk missiles, a move which faces stiff opposition from Israel's allies in Congress.

After a brief meeting of the Israeli Cabinet yesterday Mr Peres issued a statement in which he congratulated King Hussein "on his vision of peace regarding co-operation between the nations of the Middle East."

He described the offer as "important, progressive and intelligent." But Mr Peres questioned whether the UN was the correct forum for negotiations, suggesting it would "only add more problems and result in ever-lasting delays."

He repeated Israel's refusal to negotiate with the Palestine Liberation Organisation and also criticised the Hashemite Monarch for condoning terrorism.

While condemning terrorism in his speech, the Jordanian leader also rejected "the misleading attempts by those who equate terrorism with movements of national liberation and the right of people to resist occupation."

Mr Peres emphasised that no speech by King Hussein could alter Israel's opposition to the proposed U.S. arms deal with Jordan. The government is relying on the power of the Jewish lobby in Washington.

The dispute settlement process of Gatt, highly criticised by the Reagan Administration, gets kinder words from the GAO. The process at least "fosters the consultations and dialogue necessary to even begin resolving differences."

The agency says Gatt is being called upon to settle disputes that frequently involve government intervention in domestic economies.

EEC, U.S. 'create steel cartel'

BY NANCY DUNNE IN WASHINGTON

THE U.S. and Europe have effectively established a transatlantic steel cartel that protects their traditional trading arrangements and inhibits trade with newer market entrants, according to the U.S. General Accounting Office (GAO).

The GAO, an independent investigative agency, says the industrialised world's two largest trading groups have done so by import restrictions, which "have had the effect of cartelising world steel trade."

The troubles of the world steel trade, the report says, stem from global excess capacity, the long-term shift in comparative advantage from the developed to the developing world, and the view in the industrialised world that steel is a critical industry that must be preserved.

Hopes rose of a compromise over the wording of the agenda of this week's General Agreement on Tariffs and Trade meeting which would prevent an immediate breakdown over the controversial issue of trade in services. Page 18

"By adopting similar remedies for dumped, subsidised and fairly traded steel, mature producers have increasingly blurred that distinction," the GAO says. "The result has been to bypass the use of Gatt remedies for the myriad problems faced by the steel industry."

The GAO expresses its concern about the increasing use of voluntary export restraints and orderly marketing agreements, instituted instead of Article 19 of the General

Agreement on Tariffs and Trade (Gatt), which allows a country to grant its industries emergency import relief.

Article 19 was clearly intended to be used in exceptional circumstances to give temporary relief. The use of "grey areas action" such as voluntary export restraints is "distorting trade patterns and imposing economic costs," the GAO says.

The dispute settlement process of Gatt, highly criticised by the Reagan Administration, gets kinder words from the GAO. The process at least "fosters the consultations and dialogue necessary to even begin resolving differences."

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OVERSEAS NEWS

President's Rule ended in Punjab

By John Elliott in New Delhi

DEMOCRATIC government was restored to the northern Indian state of Punjab yesterday when two years of President's Rule were formally ended and the Akali Dal state Government elected last week was sworn into office.

Moderate Sikhs who form the Akali Dal Party now have the responsibility of running this prosperous but troubled state under the leadership of Mr Surjit Singh Barnala, the new but little-known Chief Minister.

Mr Barnala last night issued a statement which included controversial policies to win back the trust of the Sikh population, including dissident youth who in the past two years have been attracted by the extremists. He said he would be setting up a committee to release young Sikhs from jail and would appoint an inquiry to look into the "association, connivance and support of political elements" with the extremists.

He knows he can count on the support of Mr Rajiv Gandhi, the Indian Prime Minister, for his government which he pledged would implement the peace accord recently reached on the Punjab and would "pursue the policies of constructive co-operation rather than confrontation" with Mr Gandhi's central Government.

When Mrs Indira Gandhi, the late Prime Minister, was in power there was often friction between the states and the central Government — an approach which Mr Gandhi has shunned.

Five ministers were appointed yesterday to the Punjab Cabinet by Mr Barnala. They include Mr Balwant Singh, a former Punjab Finance Minister and a businessman with international interests. But Mr Parkash Singh Badal, a former Punjab Chief Minister who wanted to head the new government, apparently refused to join the Cabinet. This could cause friction in the future.

Tight security is being maintained throughout the state. But one person was killed and three injured yesterday in a minor clash in a village south of Amritsar between two groups of Sikhs.

Chinese party elder criticises 'deviation'

BY ROBERT THOMSON IN PEKING

TWO CRITICAL speeches in recent days by Chen Yun, an elderly and conservative ideologue who is a senior member of the Politburo, have divided analysts over the unity of China's leadership.

Mr Chen apparently would like a more Marxist approach than has been designed by the Chinese leader, Deng Xiaoping, who recorded several victories at the just-concluded special Communist Party conference.

In a speech published yesterday by the English-language "China Daily," Chen—who is

80, and, under present Chinese standards, should have accepted the party pension—called for efforts to correct "ideological negligence" brought on by the reforms.

The elderly official, wearing his cap as first secretary of the Communist Party's central commission for discipline inspection, warned that unless "serious attention" was given to cultural, moral and political development, China would "deviate from Marxism and the socialist road."

He went on to berate party and government officials who

have embarked on business ventures, and who have worked "hand in glove with law-breakers and lawless foreign businessmen." The reference to "lawless foreign businessmen" has caused disquiet among the foreign community here.

The "bourgeois decadent ideology of putting money above all else is seriously disrupting social conduct," Chen said, and "we must mobilise and organise the whole party to fight against these things with thoroughness to wipe out evil."

Chen, who was labelled a "top capitalist reader" during the

Cultural Revolution is renowned as a tough-talker, which is one of the reasons why has been put in charge of party discipline. But his criticism of China's direction has rarely been so trenchant, and his direction to "mobilise" has been interpreted by some diplomats as a rallying call.

At the close of a special party conference last week, he condemned "blindly" following market forces, criticised the country's media for exaggerating peasant prosperity, and said "no individual should try

to have the final say," which has been taken as a criticism of Deng, the country's paramount leader.

While some diplomats argue that the speeches signify a "split" in the leadership over the reforms, others say that the party conference speech was generally supportive of reform policy, and reflect concerns of many within the party. Even the latter admit that the speeches reflect the presence of a more conservative end more ideological grouping within the leadership.

Buthelezi attacks ANC calls for violence

BY ANTONY ROBINSON IN JOHANNESBURG

LONG-STANDING rivalry between the Zulu-dominated Inkatha Movement, led by Chief Gatsha Buthelezi, and the exiled African National Congress (ANC) came to a head over the weekend when Chief Buthelezi lashed out at the ANC and called on blacks to support Inkatha's policy of a negotiated settlement for South Africa's future.

Addressing a crowd of around 10,000 Zulus at the traditional Shaka Day rally, at Umlazi near Durban, Chief Buthelezi taunted the ANC with having failed to launch a

successful armed struggle against white power and of opting instead for a policy which would "turn black brother against black brother."

"Our youths are being exhorted to attack their elders. Blacks are stoning blacks, burning them alive, hacking them to pieces and the ANC in exile regards this as a great surge forward in the struggle," he said, quoting liberally from ANC broadcasts beamed into South Africa from abroad. He attacked Mr Oliver Tambo, the ANC leader personally and accused him of "cowing the

seeds of civil war" and "dictating to us from the safety of foreign flags."

Chief Buthelezi repeated his long-held conviction that the ANC in exile has no mandate from ordinary black South Africans to escalate black on black violence or conduct an armed struggle against the Government. He accused the ANC of plotting his assassination.

But as the chief called for the people to renew his own mandate for continuing peaceful negotiations with whites and other groups, a detachment

of alleged Inkatha supporters left the stadium and burst into the nearby township of Lamontville, which is a stronghold of the rival United Democratic Front. A total of six people are reported to have been killed in the ensuing violence, with one man burnt to death.

Meanwhile, further indications of the Government's own reform intentions are expected to emerge tonight when President P. W. Botha makes the opening speech at the Cape Province Congress on the ruling National Party in Port Elizabeth.

Howe seeks common ground over sanctions

BRITAIN remains opposed to mandatory economic sanctions against South Africa but will seek common ground with other Commonwealth nations when the issue is discussed at a meeting in the Bahamas next month. Sir Geoffrey Howe, Britain's Foreign Secretary, said yesterday, Hunter reports from Ottawa.

Sir Geoffrey said there is unanimity among Commonwealth nations on the need for an end to the South African policy of racial segregation but that each country must decide for itself how best to achieve that goal.

He made the comments to reporters after a day of talks with Mr Brian Mulroney, the Prime Minister, and Mr Joe Clark, the External Affairs Minister.

Sierra Leone set to elect army chief as president

BY PETER BLACKBURN IN ARIDIAN

SIERRA LEONE appears set for a peaceful political change-over when it elects a new leader tomorrow to succeed President Siaka Stevens, 80, who is stepping down after ruling the West African country for 17 years.

The single candidate, proposed by the sole political party, the All People's Congress (APC), is the armed forces commander Maj Gen Joseph Momoh, 48.

Gen Momoh was unanimously nominated at an APC convention in Freetown last August ending a long period of uncertainty and political infighting. Since then he has received an enthusiastic reception while campaigning around the country.

Although the official APC candidate, Gen Momoh is regarded as an outsider and

free of the corruption and intrigue that has discredited the party. As a devout Christian from the north and of mixed tribal background he also has an acceptable political profile.

The nomination is seen by political observers as a shrewd move by President Stevens to pre-empt a possible coup by junior army officers and to provide some guarantee of a peaceful retirement in his newly built palace on Freetown's Jubba Hill.

Gen Momoh has said that he aims to restore discipline and political accountability in a country where corruption is epidemic even by West African standards. Most of Sierra Leone's diamond and gold exports are smuggled out of the country and 80 per cent of imports are financed through the black market.

Coups attempt in Khartoum leaves 162 under arrest

BY JOHN MURRAY BROWN IN KHARTOUM

AN unsuccessful coup attempt last week in the Sudanese capital Khartoum now appears to have been a more serious threat to the Government of Gen Sadiq al-Mahdawi, than was at first suspected.

In a statement broadcast on state radio, the Prime Minister Mr Ghazal Dafallah accused a group of southern civilians and military men of plotting to assassinate members of the ruling Military Council and the civilian Cabinet.

So far 162 people have been arrested in connection with the incident, Gen Osman Abdullah, the Defence Minister, said yesterday. One junior officer was killed and six soldiers and a civilian wounded during the abortive coup attempt.

"A night curfew" has been imposed in the capital. Among those arrested is a prominent

southern politician Mr Philip Abbas Ghaboush. He is well-known as a supporter of the southern rebel leader Col John Garang. Col Garang and his Libyan-backed Sudanese People's Liberation Army (SPLA) have been fighting a two-year civil war with the authorities, and all attempts by the new Government to negotiate with the guerrilla leader have come to nothing.

A rapprochement with Libya in June was an attempt to contain the activities of the SPLA which had received much backing from Libya, including arms fuelled through Ethiopia.

In a related incident at a meeting at the UN in New York Mr Ibrahim Ayoub, the Sudanese Foreign Minister, appealed to President Mubarak of Egypt to mediate in talks with Col Garang.

FINANCIAL TIMES

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OVERSEAS NEWS

Mexican Cabinet meets as homeless protest over aid

BY DAVID GARDNER IN MEXICO CITY

THE FULL Mexican Cabinet met over the weekend, for the first time since the two earthquakes that devastated central areas of Mexico City 10 days ago, to hammer out a major reconstruction programme for the capital and badly-hit Pacific coastal areas.

The rubble-strewn capital also saw the first demonstrations organised by the thousands of Mexicans left homeless in protest at government slowness in distributing aid to them.

Details of the Cabinet meeting, which began on Saturday night, were not expected to emerge until late yesterday, but the Government was believed to be considering proposals to relocate several ministries—though not necessarily the five destroyed by the quakes—out of Mexico City.

The costs of the earthquake damage have yet to be officially calculated, but a leading private sector organisation yesterday estimated them to be at least \$5bn (\$3.57bn).

Concerning the trading company employees' organisation, said that in addition to the cost of replacing ruined buildings, Mexico could lose half its earnings, or \$1bn, as a result of damage to hotels and fear of further earthquakes.

Reconstruction costs would have to be met largely through external financing, Concepción told Excelsior, the Mexico City daily, since increased government spending or higher taxes would be dangerously inflationary. A renegotiation of Mexico's \$98bn foreign debt would thus be necessary.

Concepción's sister organisation, Canacinda, which represents industrial employers, last week called for the write-off of one year's interest payments on the debt, amounting to \$13bn-\$15bn. Both organisations tend to keep broadly in line with, if not reflect, the Government's economic thinking.

Demonstrations against government handling of aid distribution began on Friday night, led by residents from two of the worst hit areas—Tlatelolco, near the Foreign Ministry, where a collapsed crushing an estimated 2,000 people, and the devastated Tepito area near the national palace, the centre of Mexico's black market.

Few survivors are being rescued from the rubble, and another tremor on Friday night, registering 5.5 on the Richter scale, has further hampered relief work at some sites. The authorities say 5,600 died in the disaster, but a final toll of 8,000-10,000 is likely.

Panama changes president after less than a year

PANAMA'S new president Sr Eric Arturo del Valle, sworn in at the weekend after his predecessor resigned, said the Central American nation faced "one of the most difficult times in its history," Reuters reports from Panama City.

His predecessor Sr Nicolas Ardito Barletta resigned on Saturday after less than a year in office, saying he had lost the support of the armed forces. Sr del Valle, 54, an industrialist with large sugar interests who was vice-president under Sr Ardito Barletta, said the previous government lacked firmness and consistency. Panama

bad fallen into a social, political and economic "whirlpool," he said at his swearing-in ceremony.

Sr Ardito Barletta's resignation capped two days of widespread rumours of a military coup after he had pledged to order an independent inquiry into the murder earlier this month of a leading critic of the military.

The former World Bank vice-president took office last October after a water-tight victory as the military's candidate in May elections. The opposition said the polls had been rigged.

Disagreement over Sweden's economic strategy

BY DAVID BROWN IN STOCKHOLM

SERIOUS DIFFERENCES between Sweden's Central Bank and Finance Ministry over the country's post-election economic strategy emerged at the weekend, following calls by Mr Bengt Dennis, the Riksbank chairman, for harsh measures to curb private consumption.

Mr Kjell-Olof Feldt, the Finance Minister, rejected as "entirely inappropriate" Mr Dennis's call for immediate cuts in government grants to both households and municipalities, in order to dampen domestic demand and help improve Sweden's deteriorating external payments position.

He reiterated the Social Democratic administration's view that low wage cost increases in the forthcoming pay negotiations are the major priority in bringing down the rate of inflation, still one of Europe's highest.

The rapid deterioration of Sweden's external payments position is one of the most pressing problems on the economic agenda following the Social Democrats' re-election last week.

With imports rising faster than exports, due to both high private consumption and a big jump in industrial investment, the country has accumulated a deficit of Skr 12.9bn on the current account of the balance of payments in the first seven months.

Stockman says U.S. 'joy ride is over'

By Nancy Dunne in Washington

MR DAVID STOCKMAN, the former U.S. budget director, yesterday warned that "the joy ride is over" for the U.S. economy and said a \$100bn tax increase is needed "to restore any semblance of fiscal discipline."

Mr Stockman, whose frankness often got him into difficulty in his five years as budget director, spoke even more openly in a television interview about "traumatic economic dislocation."

"It is not a depression in the classic sense when the economy grinds to a halt across the board," he said. "I think it is close to a depression in a selective sense."

If a government cannot pay its bills it ends up with high real interest rates which affect "anyone who makes their livelihood in tradable goods in the world market place," he said.

Ultimately, by seeking "short run palliatives" like the Group of Five attempt to weaken the dollar, global inflation will result. This, said Mr Stockman, is unfortunate since "the solid legacy" of the Reagan Administration was to bring inflation out of the economy.

Mr Stockman blamed both Republicans and Democrats for "the breakdown of responsibility." He called for "a huge national belt tightening... a period of national sacrifice in which people would give up things equally."

Levesque steps down as Quebec premier

By Robert Gibbons in Montreal

Premier Rene Levesque, 63, has finally stepped down from leadership of the ruling Parti Quebecois and about 140,000 party members across the province were widely expected to elect Mr Pierre Marc Johnson, 39, as his successor yesterday.

In a dramatic farewell in Montreal, Mr Levesque, who founded the coalition PQ from a disparate group of separatist parties in the late 60s, said the ideal of independence for Quebec should not be forgotten even if jobs and the economy are the prime concerns today.

Late polls gave Mr Johnson, son of the late Union Nationale premier, Daniel Johnson, and Minister of Justice and Intergovernmental Affairs, almost 60 per cent of the votes in the leadership election.

The runner-up is likely to be Mr Pauline Marois, Manpower Minister. The PQ polled its membership to choose the new leader, and about 140,000 members, were eligible to vote in 798 polling points across the province. If no candidate wins 50.1 per cent of the vote, a second ballot will be held on October 6.

Noumea loyalists win most seats

BY DAVID HOUSEGO IN PARIS

ELECTION RESULTS in the French territory of New Caledonia yesterday showed a widening gulf on the South Pacific islands between those favouring independence and those against.

The Melanesian Independence movement the FLNKS won most seats in three out of four of the island's regions. But a majority in the new assembly for the territory went to the French loyalist movement the RPCR which won control in the southern region around Noumea, the capital, which has the largest concentration of people and hence the most seats.

The FLNKS, which wants a rapid shift to independence, won 16 of the 46 seats in the new assembly. But under the new voting system introduced by the French Socialist Govern-

ment which allowed each of the regions to poll separately, it none the less gained a majority of seats in the northern and central regions, and the islands of Loyale.

The loyalist RPCR, which wants New Caledonia to remain part of France, won 28 seats in the assembly. But it only gained a majority in the southern region round the capital where the French settler population is concentrated.

Squeezed between these two extremes were the moderate movements such as the LKS which had emphasised the need for the communities to work together but which only won one seat. By contrast the more racist National Front won three seats in the new assembly. Total population of New Caledonia is around 150,000,

dominated by 52,000 Kanaks and 50,000 European settlers.

Though the results were not a surprise, they underline the difficult problem that any French administration will have in finding a durable political settlement for the islands.

The risk is now that the FLNKS will return to guerrilla action feeling that the size of the white population deprives them of any hope of an orderly move to independence. The French right-wing opposition parties have said that if they are returned to power in France in March—as seems likely—they will call a referendum on the islands' future. On the basis of yesterday's election this would have given a majority to the loyalist movement which wants the territory to remain part of France.

A break down of the poll shows that the FLNKS gained 28 per cent of the vote, the more moderate independence movements 10 per cent, but the loyalist parties (the RPCR plus the National Front) 60 per cent.

The Government was none the less comforting itself yesterday that the election had passed off peacefully in contrast to the last election in November 1984 which was boycotted by the FLNKS and which produced virtual civil war soon afterwards. Some 3,000 French police were flown out to New Caledonia for yesterday's poll.

Mr Jacques Lafleur, a leader of the loyalist RPCR, none the less described the result as "cooked" for giving his party control of only one region even though it had won 53 per cent of the vote.

Fighting rages in Lebanese port city

By Nora Boustany in Beirut

A SYRIAN-BACKED offensive by leftist militias against Moslem fundamentalist fighters holed up in the northern port city of Tripoli went into its second day yesterday, but failed to make any major advances.

Communications with Tripoli were cut soon after militants of local parties affiliated with Syria closed in on the city in a pre-dawn assault Saturday following a barrage of artillery and rockets from the surrounding Syrian-held hills. There were conflicting reports about active Syrian involvement in the fighting.

The battle for control of Tripoli between elements of the Tawheed, or the Islamic Unification Movement and the pro-Syrian Arab Democratic Party has led to a casualty toll of 220 dead and 1,000 injured. Thousands of fighters from the pro-Syrian Ba'ath Party, the National Syrian Social Party, and the Lebanese Communists Party sealed off the approaches to Tripoli over the last two days but fell short of charging through Tawheed defenses. Tawheed chieftain, Sheikh Saeed Chaaban, vowed in a statement from his bunker Saturday that his men would "be the last to lay down their arms."

Two thirds of Tripoli's population of 750,000 fled the town. Mr Yassir Arafat, the Palestine Liberation Organisation chief, appealed to the Arab League and the Islamic Conference Organisation to "rise up and come to the rescue of Tripoli." Syria has accused Sheikh Chaaban of collaborating closely with the PLO leader and receiving arms shipments from his guerrilla organisation. Syria has 40,000 troops in northern and central Lebanon.

Greenpeace 'warriors' closing in on test site

BY MICHAEL THOMPSON-NOEL IN SYDNEY

RAISED FROM its watery grave, the Rainbow Warrior lay alongside an Auckland wharf yesterday, a rusting monument to a pale of French folly on the grandest scale.

In bright sunshine, sightseers stood gazing at the bedraggled Greenpeace protest vessel that was sunk by French secret agents in Auckland harbour on July 10, killing a Greenpeace photographer.

Many visitors paid a dollar or two for protest postcards and badges, and most were loudly critical of an incident that Mr David Lange, the New Zealand Prime Minister, has described as a sordid act of terrorism.

Mr Dave Cadell, a director of Auckland's Cook Cruises, said: "The French made a big mistake in under-estimating New Zealand's police. The Kiwi cops are the most tenacious in the world. They'll go anywhere, spend

anything, to track something down."

Today marine assessors will examine the vessel, which was not insured. Mr Atholvon Koertitz, a Greenpeace engineer from London, says damage is extensive. The ship's likeliest fate is to be towed away for scrap.

Meanwhile, the flotilla of protest vessels converging on Moruroa Atoll, the site of French nuclear testing in the South Pacific, is making good speed, and is determined to give the French a run, even without the Warrior.

"The whole idea is to spread around the atoll, and stretch the French a bit," said Mr Rien Achterberg, Greenpeace's Dutch-born Pacific peace flotilla co-ordinator.

The Vega, a 34-foot Greenpeace ketch with a crew of five, is just outside the atoll's 12-mile exclusion zone, shadowed by a

French naval vessel.

The Vega was handed a note last week, reminding its crew not to breach the 12-mile barrier. If the flotilla ignores this advice, a major confrontation is assured.

The Greenpeace, an 880-ton tugboat with 19 crew, mostly British, that will service the flotilla, is now about 1,200 miles, or six days, away.

Two other vessels are between five and seven days from the atoll, while the Varangian, a yacht, left Auckland at the weekend and will take three to five weeks.

The crew of the Vega includes a 61-year-old Maori elder from New Zealand who has never been to sea before.

Mr Achterberg was non-committal about whether the protest flotilla would attempt to breach the exclusion zone and sail close to the atoll.

"We had thought a spectacular nuclear test was due imminently," he said. "Perhaps we're delaying them. We hope to stay there as long as possible, at least until the hurricane season starts, sometime in November."

"The nearest friendly places are not very close. There's Pitcairn, which has water but no shelter, or the Cook Islands, 1,200 miles from Moruroa. There's French Polynesia, but it wouldn't be much use putting in there, except for water."

Although there is full-hearted support within New Zealand for Mr Lange's tough stand with Paris on the sinking of the Rainbow Warrior, there is growing concern over the New Zealand Government's ban on port visits by nuclear-armed or powered ships, which is badly straining relations with the United States.

Who's behind the biggest consumer brand names in Hong Kong?

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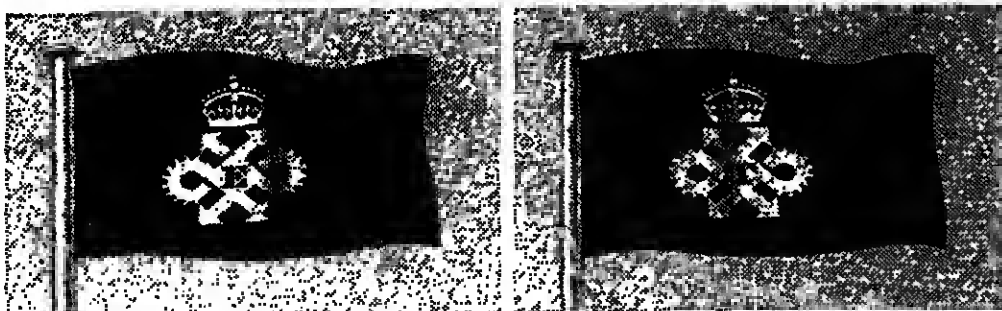
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The Queen's Awards 1986. FTB

Semiconductor sales 'set to rise'

THE WORLD semiconductor industry will make a dramatic recovery next year, according to the Semiconductor Industry Association. It predicts sales will grow 18 per cent world-wide in 1986 and to worth \$25.5bn (£18.3bn). That would be almost as high as the record sales of \$26bn in 1984.

"We believe that the 1985 recession, brought on by dramatic inventory excesses and equally dramatic price cuts, will be reversed in 1986," said Dr Gilbert Amelio, president of Rockwell International's semiconductor products division, presenting the SIA's annual forecast for 1986.

Sales of semiconductor chips in the U.S. are expected to increase 24.8 per cent to

**WORLD-WIDE
SEMICONDUCTOR SALES**

	(\$bn)	% change
1982	14.1	
1983	17.5	+24.3
1984	26.3	+46
1985	21.6*	-17
1986	25.5*	+18
1987	31.3*	+23
1988	38.4*	+23

Source: SIA

\$10.3bn in 1986. This year sales declined 29 per cent to about \$8.3bn.

In Europe, the change will be more moderate, says the SIA. It predicts growth of 7.4 per cent to \$6.9bn in 1986, compared to a 4.5 per cent decline this year.

In Europe, the change will be more moderate, says the SIA. It predicts growth of 7.8 per cent to \$6.9bn in 1986, compared to a 4.5 per cent decline this year.

Japanese sales are expected to rise 16.4 per cent to \$13.3bn, reversing the 1985 6.4 per cent decline.

While agreeing that the semiconductor industry recession is not over, most industry representatives attending the annual forecast meeting thought the SIA predictions "over optimistic."

"We are an optimistic bunch and we just, I believe, to forecast optimistically but I think there's reason to believe in the accuracy of this year's forecast," Mr Amelio said.

However, SIA president Mr Tom Kinkaid acknowledged that there has been a group of pessimists who have been remarkably accurate. Last year the SIA predicted chip sales would grow

22 per cent worldwide in 1985. Sales are now predicted to have fallen 17 per cent.

The outlook for solving the Japanese trade problem is less rosy, SIA directors said.

In June the SIA, on behalf of the semiconductor industry, took legal action under section 301 of U.S. trade laws, calling on President Reagan to put pressure on the Japanese government to open its markets.

Dr Robert Noyce, vice-president and chairman of the high value of the U.S. dollar for much of the semiconductor industry's problems. "I don't think that unfair trade practices are the only reason Japan is strong enough in the last five years to account for the mounting trade deficit," he said.

VICKERS Defence Systems of the UK late last week demonstrated its prototype Mark-7 battle tank before Egypt's military chiefs as part of a renewed British defence sales drive here.

The recent visit to Cairo by Mrs Margaret Thatcher, UK Premier, during which she had talks with Field Marshal Shaul Abu Ghazala, Egyptian Defence Minister, is seen as a useful contribution to revitalised sales effort.

Britain and Egypt agreed

Mulroney takes cautious line on U.S. trade pact

AN ANNOUNCEMENT by Mr. Brian Mulroney, the Canadian Prime Minister, that Canada was prepared to seek a comprehensive trade accord with the U.S. marks the first cautious step down a path strewn with uncertainties for the Ottawa Government and for the country's business community. The intention to negotiate, in Mr. Mulroney's vague phrase, "a new framework for discussions in tariff and non-tariff barriers" between the world's largest pair of trading partners has been widely welcomed in Canadian business circles.

About 2m Canadian jobs



expect the process will last at least two years.

Meanwhile, they are hedging their bets. Cabinet ministers have carefully avoided any reference to free trade. They have made it clear that Canada is unwilling to include the 1965 agreement on automotive trade (the so-called Autopact) in discussions which will allow the Americans to pick over Canada's generous social security system or regional development incentives, which have been criticised as unfair subsidies on Canadian exports.

The Autopact includes provisions assuring continued U.S.

of withdrawing if free trade becomes a hot political issue at home as a result of the U.S. demanding more than Canada is prepared to give.

According to an official in the special committee of inquiry set up by the Department of External Affairs to handle the talks: "The ball is in the U.S.'s court. They have to decide whether they're interested or not."

The first steps towards the negotiating table are thus hesitant ones. Mr Mulroney has asked President Reagan merely "to explore with Congress their interest in pursuing these negotiations."

Only then will "exploratory talks" be held on what each side aims to achieve in full negotiations. The Canadians

THE INDUSTRIAL and developing countries failed to agree on ways of preventing the debt problems of Third World countries from frustrating their hopes of economic development after two weeks of consultations here in the weekend and developed the head of the United Nations conference on Trade and development (Unctad).

In a final plenary session on Friday evening the 128-member board even declined formally to endorse a summary of its discussions drawn up by Mr. Martin Huslid, its Norwegian chairman.

The board met to consider Unctad's 1985 trade and development report which advised that the pressures on developing countries to generate large trade surpluses would not be long sustained.

The report recommended that the industrialised countries should adjust their policies to bring about lower interest rates

Mr. Kazimir Vidas, of Yugoslavia, argued for the group of 7 developing countries that debt service payments should be limited to a percentage of export earnings. The resources of international financial agencies should be increased and the conditions applied by the International Monetary Fund should be revised, he said.

Mr. Bernard Engel, the U.S. representative, maintained that return to creditworthiness

lay not in "external solutions" but chiefly in adjustments to individual countries' economic policies.

For Mr Jack Barnouin, of IMF, the 4.5 per cent economic growth in developing countries last year reflected the success of the adjustment measures applied to the debt crisis.

However, he saw their export growth falling from last year's 8.5 per cent to 1.5 per cent in 1985

Egypt did not take advantage of it. A number of British companies, including Rolls-Royce, are at an advanced stage in negotiations for the supply of equipment and technical assistance to Egypt's fledgling defence industry which last year exported an estimated £700m-worth of arms and

Egypt has made production of its own battle tank a priority, but defence experts say it will be some time before Egyptians have the capacity to manufacture such a sophisticated piece of equipment.

The Vickers M-7, which underwent mobility and fire power tests in the desert near Cairo, combines the Vickers turret and gun and Chobham armour with the West

German Kruss-matter, com-
Maj-Gen Foad Oraby, com-
mander-in-chief of the Egypt-
ian armed forces, was among
those who witnessed the test.
Egypt has debated the
choice of tanks suitable both
for its own use and for export
to neighbouring countries for
some years and various
models have been considered.
Other contenders for the
Egyptian market are the
Italian Oto Melara OT-40 and
the Brazilian Engesa's On-
sorio.

Egypt has in service three Soviet model tanks—the T54, T55 and T62—plus the U.S. M-60, deliveries of which are

MR. CLAYTON YEUTTER, U.S. Trade Representative, is preparing for consultations with key committees in the House of Representatives and the Senate and with American business interests on proposed liberalised trade talks between the United States and Canada. Mr. Yeutter last week issued statements welcoming Canadian Premier Brian Mulroney's proposal to open bilateral talks on reducing tariff and non-tariff

barriers. Canada is the U.S.'s largest trading partner, accounting for nearly one-fifth of its total exports. Canada's exports to the U.S. constitute nearly one-third of the country's gross national product and 75 per cent of its foreign sales.

Mr Yeutter said "Significant barriers to U.S. exports of goods and services in a number of sectors exist in Canada.

The barrier include: high tariffs across a wide spectrum of products; non-tariff barriers,

like government procurement clauses at both federal and provincial level; obstacles to U.S. investment; and federal and provincial regulations, like those on banking, which impede U.S. exports of services.

Besides conferring with the House Ways and Means Committee and the Senate Finance Committee, Mr. Yeutter will seek the advice of the U.S. International Trade Commission, hold public hearings and consult with a private sector advisory committee.

A \$500M (£357M) CHINA-U.S.
joint venture to develop a

South China Sea gas field is aiming for production from the site to begin in 1989 and to be producing 3.25bn cubic metres of natural gas annually by 1992, China's Xinhua news agency said yesterday.

The agency disclosed these details to coincide with the expected signing yesterday between the Atlantic Richfield Company (Arco), Santa Fe Minerals Asia and the China

The contract, one of the largest foreign investment deals under China's open door policy, covers development, production and sale of gas from the field.

ff Hainan Island. A 96 km undersea pipeline will be constructed from the field, known as Yacheng 13-1, to Hainan, from where a pipeline will extend to Guangzhou and the Shenzhen special economic

China is keen to sell gas from the field, which has estimated reserves of more than 10bn cubic metres, to Hong Kong, and Chinese officials have indicated that Qin Wang's

Chinese officials have considered using the gas to fuel

The U.S. companies and Enoco signed a contract to

develop the area in September 1982. The first well was drilled in August 1983, striking gas deposits with a daily output of 2m cubic metres.

Business

AT & T-Philips Telecommunications, the U.S.-Dutch joint venture, has received a \$1.17m (\$33,900) order from American Telephone & Telegraph for a communications equipment to be installed in Saudi Arabia.

The order is the first sizeable contract in six months for the telecommunications equipment sold in the kingdom, and is expected to be the largest of the year.

The equipment, for telephone and data communications via satellite, will be used for one Arabsat and two Intelsat earth stations in Jeddah which are expected into operation early next year.

Source (except U.S., UK, Japan): Eurostat

The Rate of Interest applicable to the Interest Period from September 30, 1985 to March 29, 1986, inclusively, was determined by Dresdner Bank AG (London Branch) as Reference Agent to be 8% per cent per annum. Therefore, interest per Note of U.S.\$10,000 principal amount is due on March 27, 1986, the relevant Interest Payment Date, in the amount of U.S.\$414.10.

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Documenting and mapping all the palaeolithic cave paintings in Europe.

PENNY PATTERSON (American)
Exploration of the language abilities of the great apes by the use of sign language.

BILL LASLEY (American)
Confirming a reliable method for breeding threatened species of birds in captivity.

GEORGES DELAMARE (French)
Rehabilitation of the paralysed by computerised electronic stimulation of nerves and muscles.

KENNETH L. MARTEN (American)
Preservation of the Abyssinian wolf by studying its behavioural patterns and needs.



ANDRÉ MARTIN (French)
Clearing forest undergrowth, to reduce fire risk and composting it into a commercial fertiliser.

EDUARDO LLERENAS (Mexican)
Establishing an accurate record of traditional folk music in the remote parts of Mexico.

RODNEY JACKSON (British)
Radio-tracking the snow leopard to expand our knowledge of the ecology of this endangered animal.

MILAN MIRKOVIC (Australian)
Desert cultivation of the jojoba plant, which produces an alternative oil to that of the endangered sperm whale.

SEYMOUR MELMAN (American)
An exploration of methods to convert industrial economies from military to civilian work.



THEAN SOO TEE (Malaysian)
Cultivating asparagus plants on Mt. Kinabalu to inhibit soil erosion and yield a high-value crop for local farmers.

MARTINE FETTWIS-VIENOT (Belgian)
Continuing a painstaking inventory of Mayan wall paintings created between the 3rd and 15th centuries.

DONALD PERRY (American)
Devising a "spider's web" so that biologists can safely research the canopy of tropical rain forests.

KENNETH HANKINSON (British)
A thorough biological and geological survey of the unexplored Brabant Island in Antarctica.

MICHEL TERRASSE (French)
Repopulating the Massif Central area of France with the Griffon vulture, following its extermination.

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Your entry must be submitted in English on an

official application form and reach the Secretariat before 31st March 1986.

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ROLEX
of Geneva

THE 1987 SELECTION COMMITTEE

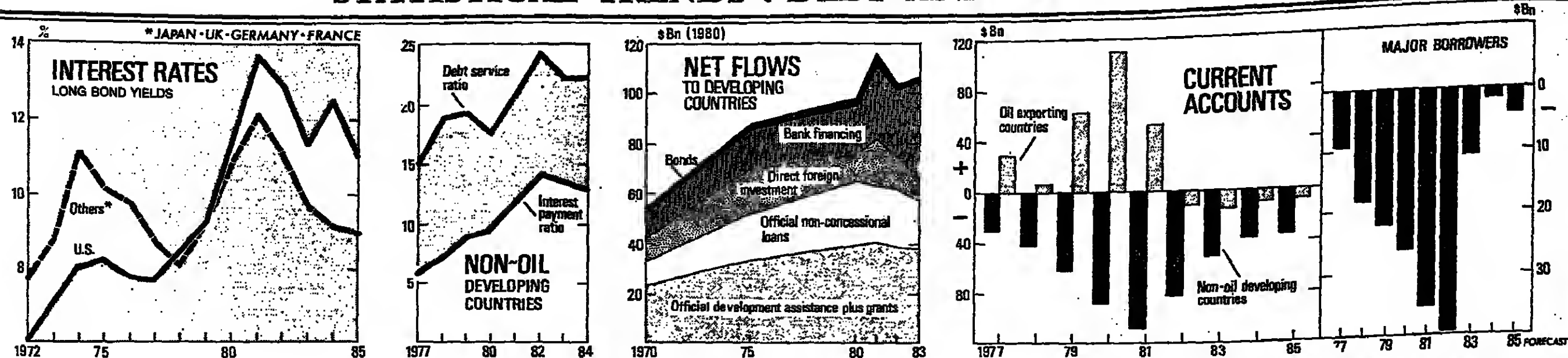
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Miss Fleur Cowles (Great Britain), Painter and author.
Member of the World Wildlife Fund International Council.
Dr. Xavier Fréchet (France), Specialist in hyperbaric physiology. Scientific Director of COMEX, Marseilles.
Professor Yoshimune Ikeda (Brazil), Oceanographer specialising in Antarctic research. Professor at the Oceanographic Institute of the University of São Paulo.
Mr. Kiabo Kurokawa (Japan), Architect. President of Kiabo Kurokawa Architect and Associates, and Director of the Institute of Social Engineering, Inc., Tokyo.
Mr. Hans Joachim Panitz (FRG), Telecommunications engineer. Payload Operations Manager at the German Aerospace Establishment - DFLR, Cologne.
Professor Carlo Rubbia (Italy), Physicist and 1984 Nobel Laureate. Project Spokesman at the CERN (European Laboratory for Particle Physics).
Mr. Robert Stenning (Belgium), Underwater archaeologist and author.



STATISTICAL TRENDS : DEBT AND FINANCING



A question of interest as crisis cools

SEVERAL YEARS of debt re-scheduling have taken much of the heat off the world's debt crisis but interest payments on debt remain a problem.

The debt crisis of the early 1980s followed a doubling in the flows of capital to the developing countries between 1970 and 1981. Lending by commercial banks increased four-fold, taking their share of new flows to 30 per cent.

This increased the exposure of the developing countries to fluctuations in the market rate of interest and made the international banking system more sensitive to shocks in the world economy.

The debt of non-oil developing countries climbed rapidly to reach \$750bn by 1982, and the debt service ratio (debt service payments as a proportion of exports of goods and services) rose from around 15 per cent in the mid-70s to 24.8 per cent.

The recession in the world economy which started after the oil price shock of 1973, hit the non-oil developing countries. World trade

fell in volume and non-oil dollar commodity prices fell by 25 per cent between 1980 and 1982.

Interest rates increased substantially in nominal and real terms.

Their current account deficits rose to \$110bn in 1981 and the financing requirement (current account plus capital outflows) shot up to \$150bn. A total of \$84bn had to be borrowed from private creditors.

The squeeze on financing forced a substantial cut in imports and loss of output leading to a series of debt re-schedulings.

The turnaround in the world economy since 1982 has brought some relief. Export volumes increased by 11 per cent in 1984, and imports which fell in volume by 8 per cent in 1981-83 rose 6 per cent in 1984.

The current account deficit of the non-oil developing countries fell substantially to \$38bn in 1984 and the financing requirement at \$47bn was almost entirely matched by net exports and long-term borrowing from official creditors.

For the major borrowers the fall in the current account deficit was even more dramatic from \$40bn in 1982 to \$1.5bn in 1984.

Re-scheduling has reduced the amount of short-term debt by \$30bn and the debt service ratio has fallen from 24.8 per cent to 22.5 per cent, but it remains high.

The interest payment ratio has fallen slightly from 14.3 per cent to 13 per cent—many re-scheduling arrangements do not reschedule the interest element of the loan. Interest payments now account for 80 per cent of debt service payments.

Although interest rates have eased from the peak levels of 1981 they remain high with the continued need for deficit funding, particularly in the US. Thus the interest payment ratio is unlikely to fall in 1985. This is against the background of slower economic growth in the world economy and weakening commodity prices.

The oil-exporting countries' substantial current account surpluses of 1979-80 have be-

come deficits as the oil price has plummeted and their market share has fallen. There was a consequent increase in net borrowing to around \$20bn in 1983-84.

The cumulative current account of the richer countries is still well in surplus, but that of the poorer OPEC countries is estimated to have gone into deficit in 1985.

In the industrialised countries government deficits as a percentage of GDP increased in the 1970s and early 1980s before easing back in some countries following tighter fiscal policies.

However, the effect of the public debt size (55 per cent of GDP for the EEC as a group) and the increase in interest rates on that debt, caused interest payments as a proportion of GDP to rise sharply to an average of 5 per cent for the EEC. In 1985 debt interest payments could exceed net borrowing in several European countries.

*Argentina, Indonesia, Mexico, Venezuela, Brazil, Korea, Philippines.

EXTERNAL DEBT \$bn

	Non-Oil Developing Countries		MAJOR BORROWERS*	
	Short Term	Long Term	Short Term	Long Term
77	63	289	28	705
78	72	327	33	127
79	82	389	43	148
80	113	452	66	170
81	136	524	82	207
82	159	582	97	228
83	127	553	77	214
84	126	701	66	282

* Argentina, Indonesia, Mexico, Venezuela, Brazil, Korea, Philippines.

GENERAL GOVERNMENT FINANCIAL BALANCES

	% GNP/GDP					
	1979	1980	1981	1982	1983	1984
U.S.	0.6	-1.2	-0.9	-3.8	-4.1	-3.4
Germany	-2.7	-3.1	-3.8	-3.4	-2.8	-1.8
France	-0.7	+0.2	-1.8	-2.7	-3.1	-2.3
UK	-3.2	-3.9	-3.2	-2.3	-3.5	-4.0

* Forecast. Source: OECD.

DPEC CURRENT ACCOUNT

(Cumulative from 1972)					
	1981	1982	1983	1984	1985*
Rich Opec	335	242	336	328	321
Poor Opec	67	31	11	0	-12

* Estimated. Source: Salomon Bros.

INTEREST PAYMENTS

	% GDP					
	1970	1975	1979	1983	1984	1985*
U.S.	2.2	2.5	2.9	4.8	4.9	4.9
Japan	0.6	0.7	0.7	1.2	1.3	1.3
W. Germany	1.9	1.4	1.7	3.0	3.0	3.0
UK	4.0	4.0	4.5	4.9	4.9	4.9

* Forecast. Source: IMF.

INDENTED DEVELOPING COUNTRIES

	\$bn					
	1981	1982	1983	1984	1985*	1986*
Current Account Deficit	113	108	98	38	38	38
Capital Outflows	37	38	30	5	5	5
Financing Requirement	150	146	128	43	43	43
Borrowing from Private Creditors	98	68	27	12	12	12

* Forecast. Source: IMF.

OECD GNP GROWTH % CHANGE

	U.S.		OECD (less U.S.)	
	1978	1979	1978	1979
77	4.2	4.2	2.8	2.8
78	4.7	4.7	3.5	3.5
79	2.6	2.6	3.8	3.8
80	-0.4	-0.4	2.2	2.2
81	3.4	3.4	1.5	1.5
82	-3.0	-3.0	0.8	0.8
83	3.7	3.7	1.9	1.9
84	6.8	6.8	3.8	3.8
85*	2.8	2.8	2.8	2.8

* Forecast. Source: OECD/Philips and Drew.

NON-OIL LDC*

	\$bn		Exports		Imports	
	1977	1978	1977	1978	1977	1978
77	219	219	219	219	219	219
78	228	228	228	228	228	228
79	311	311	311	311	311	311
80	407	407	407	407	407	407
81	413	413	413	413	413	413
82	386	386	386	386	386	386
83	358	358	358	358	358	358
84	427	427	427	427	427	427
85*	427	427	427	427	427	427

* Forecast. Source: IMF.

EXTERNAL DEBT

	% of exports		Major Borrowers*	
	Developing Countries	Major Borrowers	Developing Countries	Major Borrowers
1977	127	127	127	127
78	132	132	132	132
79	119	119	119	119
80	110	110	110	110
81	123	123	123	123
82	148	148	148	148
83	138	138	138	138
84	181	181	181	181

* Argentina, Indonesia, Mexico, Venezuela, Brazil, Korea, Philippines.

BIS REPORTING BANKS CHANGES

	US\$ bn		Total External Assets		Net International Bank Lending	
	1979	1980	1979	1980	1979	1980
79	208	208	208	208	208	208
80	241	241	241	241	241	241
81	286	286	286	286	286	286
82	178	178	178	178	178	178
83	108	108	108	108	108	108
84	126	126	126	126	126	126

* Source: BIS.

BANK CLAIMS at end 1984

	\$bn		Brazil		Mexico	
	1984	1985*	1984	1985*	1984	1985*
78	78	78	78	78	78	78
79	73	73	73	73	73	73
80	31	31	31	31	31	31
81	28	28	28	28	28	28
82	26	26	26	26	26	26
83	14	14	14	14	14	14
84	14	14	14	14	14	14
85*	11	11	11	11	11	11

* Source: Morgan Guaranty.

Commentary by Our Economics

Staff; data analysis by Financial Times Statistics Unit; charts and graphs by Financial Times Charts Department.

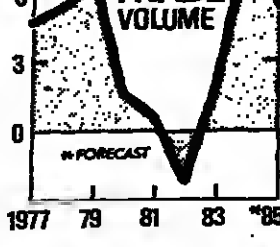
% CHANGE

NON-OIL DEVELOPING COUNTRIES



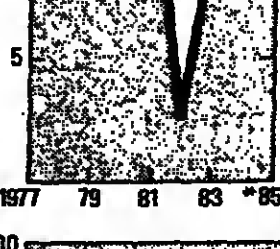
% CHANGE

WORLD TRADE VOLUME



\$ per barrel

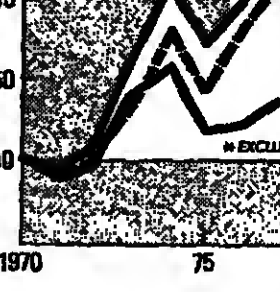
SPOT OIL ARABIAN LIGHT



COMMODITY-PRICE INDEX

ECU

Real \$



This announcement appears as a matter of record only.



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March 1985

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Kinnock urges ballot fund for trade unions

BY JOHN LLOYD, INDUSTRIAL EDITOR

MR NEIL KINNOCK, the Labour leader, has given powerful support to the forces for change within the Trades Union Congress (TUC) by proposing a development fund on which unions could draw finance for ballots, as well as for education and training programmes.

He also went further than he has before in agreeing in a television interview yesterday that a future Labour government would prescribe ballots in law - as the 1984 Trade Union Act presently does. Asked if Labour would give ballots the force of law, Mr Kinnock said: "I think there's no harm at all in that. Indeed, I think there is good reason for that to be sustained in law."

In earlier comments to industrial journalists, he had said: "Compulsory ballots are a source of industrial inflammation", but added that "it would be unthinkable for the Labour Party or a Labour government to diminish the power individual trade unionists can exercise in a trade union."

Mr Kinnock forecast that the TUC would soon hold a conference on the union's attitude to labour law - a number of leading TUC figures are now pressing for this - and he would welcome such a move.

The ballot issue, which overshadowed the TUC Congress earlier this month, will be revived at least once more this week at the Labour party conference when the executives of the two craft unions committed to taking money for postal ballots - the engineers and the electricians - meet on Wednesday night to determine their future action in light of a TUC general council decision to break off any further applications for state aid for ballots.

It is expected that the engineers' executive will decide to recommend to its 1m members to vote once more for the state aid in a second ballot on the issue in November. The electricians' executive is also expected to reaffirm its decision to take the money once its application for it - subject to lengthy delay - has been approved by the certification officer.

Mr Kinnock described the Government's employment legislation as "conceived in prejudice and applied with malice", but he is now in clear support of an approach to future labour law which incorporates some of the individual balloting rights introduced, in particular, in the 1984 Act.

His approach is echoed in a discussion document launched yesterday by Mr John Prescott, the party's employment spokesman. The document, Planning for Full Employment, proposes free postage for ballots as in parliamentary elections; and advances the case for a Workers Rights Bill to "extend the democratic rights and freedoms of workers at their place of work."

Mr Kinnock's idea is to establish a Government-financed fund to be placed under the control of the TUC which would provide money for ballots, training, education and union development. A TUC-appointed monitoring committee would be empowered to vet applications for finance from the unions, with the main criterion being that the acceptance of such funds should not compromise the union's independence.

He said that unions not affiliated to the TUC should also be allowed to apply for the funds from the TUC committee - provided they were genuinely independent, and judged to be so by the Government-appointed Certification Officer.

Mr Hattersley was speaking at a meeting of the Labour Solidarity Campaign, at which Mr Gerald Kaufman, Shadow Home Secretary, appealed to delegates to let their behaviour over the next week be ruled by the need to win the next general election.

"We must all ask ourselves - will what I say and do help Labour win the next election?" he said. "If it's not relevant to a Labour victory, then don't do it, don't say it," he urged.

Labour leaders were yesterday showing some apprehension over the possibility of rows developing on such issues as black sections and the Liverpool council issue, which would influence public perceptions of the conference. The theme of restraint was taken up by Mr Hattersley, who begged delegates to concentrate on the detail of party policy.

"It's the realism - the practicality and sheer common sense of what we propose - that frightens our opponents," he said.

It was this fear that had produced the "hysterical, ignorant and prejudiced" newspaper response last week to his latest economic policy statements. He challenged the editors of four national daily papers - The Daily Express, The Daily Mail, The Sun and The Times - to substantiate their criticisms.

The fact that they had all chosen to attack Labour's policy on the same day and in the same way was no coincidence, he claimed. "Rational observers will conclude that at the word of command from Central Conservative Office various papers clicked their heels and jumped smartly to attention."

Mr Haddon said it was not sufficient for Labour to just oppose unemployment. "We must be for employment. It is not enough to be against unemployment. We must be for expansion."

"It is not enough to oppose poverty and inequality. We must be



Mr Neil Kinnock

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Labour hears plea for party unity

BY IVOR OWEN AND MARGARET VAN HATTEM

PERILS FACING the Labour Party if it was unable to shed its reputation for disunity and division were underlined by Mr Alan Haddon, the party chairman, in his opening address to Labour's annual conference which opened at Bournemouth yesterday.

He emphasised that the lesson to be drawn from the successive general election defeats in 1979 and 1983 was that it was necessary to earn and recede the loyalty of working people every generation.

Mr Haddon, a leading member of the Amalgamated Society of Boiler-makers, Shipwrights, Blacksmiths and Structural Workers, claimed that Labour had the opportunity to regain public support because the present government had "lost touch with so many people."

While political power need not be won at the expense of principle it could not be won without unity.

Mr Haddon said: "We have the leader, we have the parliamentarians, we have the policies. Nothing - no sectarian prejudices, no factional divisions, no personality clashes, no misconceived and selfish private enterprises and no petty differences must deflect us from our task - victory in the next general election."

Mr Haddon maintained that the conference opened with the British people looking to Labour for leadership and for hope. "They look to us because they want a government with a programme for economic recovery to banish mass unemployment."

The British people also look to Labour, he said, because they want a government with a commitment to attack poverty, to halt the crisis in the inner cities and to rebuild the health and social services.

He dismissed the Thatcher Government as a "monetarism-obsessed faction" which did not share the concern of the people about unemployment and the present scale of poverty and inequality.

"This is a government which has created, in unemployment and poverty, mass suffering on a scale no one would have thought possible 20 years ago, 10 years ago, or even six years ago."

Mr Haddon said it was not sufficient for Labour to just oppose unemployment. "We must be for employment. It is not enough to be against unemployment. We must be for expansion."

"It is not enough to oppose poverty and inequality. We must be

Bank works for quick end to JMB saga

EXACTLY a year ago a team of British bankers was recovering from a night spent checking the books of Johnson Matthey Bankers. Today the troubled bank is being prepared for sale, and after an uncomfortable year in the driving seat, the Bank of England would dearly like to complete this process as quickly as possible and with the minimum of fuss.

What the bankers found was a £300m loan book, three quarters of which was either non-performing - that is, repayments were not being made - or inadequately backed. The central bank's initial review suggested that some £240m - about twice JMB's capital - would have to be provided against possible losses.

Johnson Matthey plc, the bank's parent, was unable to plug the holes and so the rescue was launched. In the rescue package that was put together, the parent chipped in £50m and then for £1 sold JMB to the Bank of England. The central bank put £100m on deposit (now capitalised) and provided a £150m guarantee - half of which was subsequently covered by the clearing banks, accepting houses and members of the gold market through an indemnity agreement.

So JMB was saved and became a subsidiary of the central bank. Under the leadership of Mr Rodney Galpin, who was an executive director of the Bank of England and became acting chairman of JMB, senior bankers drawn from across the spectrum of UK financial institutions and backed up by on average 40 seconded executives were sent in to sort out the mess.

All the new team and those JMB staff who were not dismissed were asked to sign the Official Secrets Act. The newly appointed investigating auditors, Price Waterhouse, began an exhaustive study of each debtor.

Over the year the new management has been successful in reducing the total of loans by £100m to reach the present £400m figure. Some £310m of this is considered bad or doubtful against which £220m is being provided in case of losses. The provisions figure has fallen from the original estimated requirement of £240m.

From the start of the rescue operation the central bank has insisted that JMB's problems were restricted to its loan book which had grown tenfold in five years without an appropriate expansion of staffing and control systems.

The well known bullion dealing operation of JMB, which was of long standing and gave the bank a seat on the five-member pricing body in the London gold market, has not been an area of concern. Its executive director, Mr Patrick Smith, is the only survivor at that level at JMB.

Bullion dealing was also by far the biggest contributor to the bank's profits. Almost 90 per cent of pre-tax profits in the five years to March 1984 came from the dealing area. However, in an effort to diversify its range of activities, JMB launched in 1981 a planned expansion of its loan book. Insurance and futures trading were also earmarked for growth.

The bank's rolling five-year plan made clear that the lending policy would be to concentrate on international trade, property and smaller UK commercial and industrial loan finance. A high-risk profile was adopted (as, usually, were some what higher interest rates) and, as the word got round that JMB was in the loan business, several who had found difficulty in raising funds elsewhere made their way to the Lloyd's Avenue bank headquarters.

The result, as Price Waterhouse found out after the takeover, was a loan book heavily concentrated on certain customers or customer groups and in certain sectors. The major borrowers had also greatly exceeded the prudential guidelines on exposures - for example, the group of companies belonging to Mr Mahmoud Sipra (bulk commodity, saw, iron, shipping and film projects) alone owed \$70m against JMB's capital base of £130m.

Of the five leading borrowing groups, three were found to have problems - in addition to Mr Sipra, the Iranian brothers with loans totalling \$37m and Mr Abdul Shamji's Korean project that now appears uncertain.

On the property side the position seems better. The uncertainties include Mr Shamji (who this summer failed to meet repayments under a rescheduling agreement) and Mr Michael Hepler (who through Ravensbury Investments borrowed £2.25m from JMB for various developments - £1.5m of which is still owed on a failed South Wales super-

market development scheme). Much of the "good" £30m in the outstanding loan book is in this area of lending.

The management and computer systems at JMB appear to have been outgrown by the mushrooming loans. The credit committee (which consisted of all four executive directors plus up to three department heads, met each Tuesday and sent minutes to both the board of the bank and of the parent) did not co-ordinate with the assistant manager who sent off the returns to the Bank of England.

These quarterly returns should have detailed all exposures by customer and sector. But JMB's accounting system was not specific enough on the connections between various borrowings. The credit committee may not have reported the full extent of exposures to the board.

Certainly the senior staff in the pre-rescue JMB banking department was overworked. Account officers handled up to 100 customers while the norm in most banks would probably be around 40. The department's total staff was 63 before the takeover of whom 50 remain and to which on average 40 secondaries have been added.

Heading the banking side of JMB was Mr Ian Robert Fraser who had worked in the same department since joining the bank in 1971. Some blame for the problem loans has clearly to be directed towards him. However, the "outbreak of systematic incompetence" which

very least the central bank has to recover its £100m deposit plus any additional net assets on the books at the time of the sale.

The attraction of JMB has to be the sound bullion business and the seat in the important gold "ring" (that meets twice daily to "fix" the price of gold) that goes with it. If there is a break-up, then one option would be to sell the loan book as a speculative investment at a discounted price.

Among the pressures for a speedy resolution - other than the understandable desire of many banks to get back 40 or so officers on secondment to JMB - are the political ones. Not only the opposition in parliament but also the Treasury will be making noises if progress appears slow.

Important also before any sale will be some moves to resolve outstanding litigation (especially that between JMB and its former auditors Arthur Young) and a clean bill of health from the City of London Fraud Squad which is assisting the Bank of England in an investigation into whether there was any fraud by JMB employees.

So far, there is nothing very firm as far as a target sale date although Baring Brothers, the merchant bankers, have been retained to advise on this. Five parties, among 40 who came forward just after the rescue operation was mounted, have expressed continued interest.

Looking ahead the most likely sale period would appear to be during the first three months of 1986. No sale will be possible before Price Waterhouse completes its audit of JMB for the 15 months to June - the report on which is due "late December, early January." For the moment providing an outer bound is March 31 1986 when the indemnity agreement with the banking community runs out. This could be extended but it might be politic not to ask to do so.

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exceeded the prudential guidelines on exposures - for example, the group of companies belonging to Mr Mahmoud Sipra (bulk commodity, saw, iron, shipping and film projects) alone owed \$70m against JMB's capital base of £130m.

Of the five leading borrowing groups, three were found to have problems - in addition to Mr Sipra, the Iranian brothers with loans totalling \$37m and Mr Abdul Shamji's Korean project that now appears uncertain.

On the property side the position seems better. The uncertainties include Mr Shamji (who this summer failed to meet repayments under a rescheduling agreement) and Mr Michael Hepler (who through Ravensbury Investments borrowed £2.25m from JMB for various developments - £1.5m of which is still owed on a failed South Wales super-

market development scheme). Much of the "good" £30m in the outstanding loan book is in this area of lending.

The management and computer systems at JMB appear to have been outgrown by the mushrooming loans. The credit committee (which consisted of all four executive directors plus up to three department heads, met each Tuesday and sent minutes to both the board of the bank and of the parent) did not co-ordinate with the assistant manager who sent off the returns to the Bank of England.

These quarterly returns should have detailed all exposures by customer and sector. But JMB's accounting system was not specific enough on the connections between various borrowings. The credit committee may not have reported the full extent of exposures to the board.

Certainly the senior staff in the pre-rescue JMB banking department was overworked. Account officers handled up to 100 customers while the norm in most banks would probably be around 40. The department's total staff was 63 before the takeover of whom 50 remain and to which on average 40 secondaries have been added.

Heading the banking side of JMB was Mr Ian Robert Fraser who had worked in the same department since joining the bank in 1971. Some blame for the problem loans has clearly to be directed towards him. However, the "outbreak of systematic incompetence" which

very least the central bank has to recover its £100m deposit plus any additional net assets on the books at the time of the sale.

The attraction of JMB has to be the sound bullion business and the seat in the important gold "ring" (that meets twice daily to "fix" the price of gold) that goes with it. If there is a break-up, then one option would be to sell the loan book as a speculative investment at a discounted price.

Among the pressures for a speedy resolution - other than the understandable desire of many banks to get back 40 or so officers on secondment to JMB - are the political ones. Not only the opposition in parliament but also the Treasury will be making noises if progress appears slow.

Important also before any sale will be some moves to resolve outstanding litigation (especially that between JMB and its former auditors Arthur Young) and a clean bill of health from the City of London Fraud Squad which is assisting the Bank of England in an investigation into whether there was any fraud by JMB employees.

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UK NEWS

English vineyards facing a bitter harvest

Harsh weather has dealt a heavy blow to wine prospects. Andrew Taylor reports

LINE OF VINES stand on the slopes above the Kent village of Lamberhurst. Harvest will not take place for several weeks but the plants are in poor shape. It has not been a good year for English vineyards.

Lamberhurst is about 45 miles south of London, and has Britain's largest commercial vineyard, covering 50 acres. It already knows that its 1985 harvest will yield less than half of what it would expect to achieve in a good year. At best it will be a quarter of the record crop of 1983.

Whether a disappointing harvest will turn into a disaster will depend upon how the weather behaves during the next six to eight weeks. A hard early frost could finish the grapes on the vines. Heavy persistent rain could cause some of the berries to rot, further reducing the yield.

It is frustrating for English wine production which, after two excellent harvests producing quality as well as quantity, had started to come of age.

A survey by Ministry of Agriculture officials last autumn showed that there were more than 1,000 acres of commercial vineyards in England, mostly in the south part of the country. These were thought to have produced more than 2m bottles of wine during the record harvest of 1983.

This may be no more than a French or German village might

produce in a good year, none the less, English wine is growing in reputation and not just on novelty or patriotic grounds.

English wine, despite criticisms that it is expensive, is stocked by several supermarket chains. It is drunk in the Houses of Parliament and is available at a number of top London hotels. It can be found increasingly in wine bars and on the shelves of wine merchants.

English vineyards took three of the top four places in an international wine tasting organised last year by the authoritative *Wine* magazine.

The vagaries of the British climate, however, do not favour the wine grower. The grape is about the last fruit to be harvested by the Kentish who, for generations, have traced the Kentish summer through the soft fruits like strawberries and raspberries to the cherries, hops and apples.

This year they will find the grapes smaller and the bunches of fruit less plentiful. There are gaps along the lines of vines where plants have died; a legacy of bitterly cold spells in January and February when temperatures in that part of Kent dropped to -20 degrees C.

Herr Karl Heinz Johnner, the West German winemaker at Lamberhurst - its 1984 *Schönberger* was recently named English wine of the year - says: "After two very good fruit-producing years, the plants lacked the strength to with-



Herr Karl Heinz Johnner: Hoping for warm weather

stand such a sustained spell of cold weather."

"It is the same on the Continent. Vineyards around Würzburg in Franconia are talking about yields down as low as 10 per cent on normal years. Around Baden yields are expected to be around 40 to 50 per cent lower."

Grapes need warmth to achieve their full potential and a poor British summer has not helped fruit development after the ravages of the winter.

"We are hoping for a period of warm weather, to raise the sugar content of the berries in the hope that we can make up in quality

1985 will show a further profit, although smaller than in the previous year. Next year the vineyard could move back into the red.

Not all English vineyards suffered as badly last year. Wootton vineyard on six acres near Shepton Mallet, Somerset, says that temperatures there did not drop as low as in parts of Kent and East Anglia.

As a result, fruit formation is good but the berries are small because of the poor summer. Yields will be down but Wootton, like Lamberhurst, is hoping that this will be made up in this quality of the grapes.

Ms Gay Riddlecombe, owner of St George's English wines, a 20-acre vineyard at Heathfield, East Sussex, tells a similar story: "We only lost four vines as a result of the winter, but the poor summer has meant that the fruit is small. The crop will not be as heavy as the two previous years."

St George's says demand for English wines has been boosted by the scandal over the discovery that some Austrian wines contained the prohibited chemical additive, diethylene glycol.

St George's sells at the quality end of the market. Its customers include National Westminster Bank and several finance houses in the City of London. The Dutch Embassy stocks St George's wine and 400 cases were recently sold to the Mitsukoshi store group in Japan.

Housing repair crisis 'avoided by Germany'

BY ROBIN PAULEY

INNER-CITY housing in West Germany is better built and better maintained than in Britain - but its citizens have to pay more for the privilege, according to a comparative study of housing in the two countries published today.

West Germany has the advantage of having rebuilt much of its housing stock and infrastructure after the second world war, says the report by Mr Chris Cronch, senior lecturer at Liverpool Polytechnic.

West Germany is also richer than Britain and has been able consistently to spend more on building and maintenance, says the report.

"There is little doubt that German housing has historically been built to higher physical standards. This fact, together with sustained maintenance, has avoided the housing repair crisis that so badly affects British housing today."

Britain was paying "too little at-

tention" to the long-term costs of cheap house-building, the report adds.

There is also a philosophical difference between the two countries. Under West German housing policy, intervention only ensures the proper working of the market. Subsidies are paid to compensate for gaps in market provision or to alleviate hardship, but no more.

By contrast, 30 per cent of British housing is built by the state and allocated on the basis of need, cutting out the market mechanism.

West German housing, whether subsidised or not, is largely built and let by private companies and individuals, "making for a variety of style, price and tenure in a particular area and avoiding the bleakness of Britain's vast council estates."

Housing Conditions in Britain and Germany, by L. Anglo German Foundation for the study of Industrial Society, 17, Bloomsbury Square, London WC1.

Monetary policy 'will ease by end of year'

BY MAX WILKINSON, ECONOMICS CORRESPONDENT

UK MONETARY policy remains tight and is expected to ease by the end of the year, says Professor Patrick Minford, head of Liverpool University's economic research group, in his quarterly bulletin out today.

He expects interest rates to fall fairly rapidly with the Treasury bill rate (the short-term rate at which the Treasury borrows from the money markets) falling to just under 9 per cent on average next year compared with 11½ per cent this year.

In spite of the high level of inte-

rest rates in the first half of this year, the Liverpool group forecasts that the UK economy will show a strong recovery this year, with economic growth about 3½ per cent higher than in 1984.

The Liverpool group, which follows a strongly monetarist approach, expects the economy to continue to grow at a sustained rate of about 3 to 3½ per cent a year to the end of the decade, with inflation remaining at 3 per cent or less during the period and unemployment falling by 700,000 over the period to 2.5m.



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While you catch your breath, we'll pass on a little well-tuned technical information on the power potential of this magnificent machine.

The massive 150 bhp performance derives from the addition of a 10 psi Garrett T3 turbocharger to the "O" series 2 litre engine.

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While dawdling at 30 mph won't rattle your bones in fifth gear either.

To match this potent driving force the MG Turbo sits firmly but smoothly on the uprated and strengthened Montego suspension system, described by those who write about cars for a living as making this one of the best balanced cars in its class.

The high ratio steering is power assisted, designed for fast work and provides a nimbleness and agility more akin to a formula one than a family saloon.

IS THERE SOMEWHERE NICE TO SIT WHILE ALL THIS IS GOING ON?

In order to satisfy their lust for power, many high performance machines sacrifice more than a little in the accommodation area. Not so the new MG Montego Turbo.

To begin with, you've electric windows all round and electrically operated and heated door mirrors, a four speaker electronic stereo system and wall to wall carpeting, everywhere including the boot floor and side casings.

Standard interior refinements are many and meticulously installed.

There are reading lamps and a cigar lighter in the rear; purposebuilt storage for cassettes in the glove box, the rear doors

operate courtesy lamps and, above it all, a slide and tilt steel sunroof.

Outside are additional front and rear spoilers and colour keyed door mirrors and door handles.

In addition, as if you needed reminding of the MG Montego Turbo's pulsating performance there are turbo decals on the bonnet and doors. Discreet but emphatic.

If all this sounds like an MG more than worthy of the name, it is.

And, at around £10,600 the new MG Montego Turbo offers a unique combination of economic good sense and an unrivalled driving experience.

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THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ

Product development

New breakfast menus from Battle Creek

THEY ALL laughed at Kellogg in the late 1970s, when most of the U.S. food industry was setting off on a diversification spree into new product areas and non-foods. Competitors, pundits and analysts agreed that the world's leading breakfast cereal maker was going to end up stuck in a stagnant market—a sitting target for allegedly more vibrant brand manufacturers and for retailers' own-label lines.

Company executives now confess that their detractors had them wondering for a time. Much of what they said was true. Market growth had slowed from 7 per cent a year in the early 1970s to about 2 per cent at the end of the decade.

General Foods and General Mills were chipping away at Kellogg's market share, consumers were feeling the pinch of recession and switching to generics. The anti-sugar lobby, with support from the Federal Trade Commission, was trying to ban TV commercials for sugared cereals.

Nor was the company's confidence helped by an anti-trust case in which it stood accused by the FTC of operating a "shared monopoly" in cereals with General Foods and General Mills. Started in 1971, the case finally faded out in 1982.

Kellogg shopped around, moving in a relatively modest way into areas such as tea and frozen fruit pies, and making a few desultory offers for other food companies. But even then it was formulating its strategy for the 1980s. The first principle was that it would stick to what it knew best—grain-based products. It still earns about three quarters of its annual income from breakfast cereals, of which about 20 per cent comes from overseas markets.

As the U.S. birth rate fell, Kellogg set about tackling the older generation. Overall average consumption of cereals in the U.S. was 3.6 lb a year in 1979. Among the under-25s it was 11 lb and the 25-to-50-year-olds averaged about 5.4 lb. Setting its sights mainly on the 50m people in this section of society, it planned to boost the national average to 12 lb by this year.

It bounced straight in with five new products in 1979, when other manufacturers launched

another half dozen between them, bringing the total of new launches that year to more than double the usual number.

Neither the pundits nor Kellogg have been proved wholly right so far. The company's earnings and dividends have continued to rise, as they have each year since the mid-1980s. It is still leader in the world's major markets, and this year will take about 42 per cent of U.S. sales, after own-brand labels cut their share to 37.5 per cent in the 1983 recession.

Even so, overall average consumption of cereals in the U.S. is still only 9 lb a year.

Chris Parkes reports on Kellogg's relentless innovation drive

and the 25-to-50 group is still eating only about 6 lb. The upshot has been a continuing and costly cycle of new launches and counter-launches in the industry. Kellogg has doubled its annual launch rate in the past two years.

However, unlike its main competitors, it has not been diverted by mishaps in unfamiliar product areas, and its early decision to stick to cereals has given it something of a head start.

Kellogg aims to maintain and extend its lead at home and abroad through its notably aggressive marketing department and especially through the efforts of its top secret research and development building at Fort Custer, a couple of miles from its world headquarters in Battle Creek, Michigan.

That there are only about a dozen people in the main marketing office compared with some 400 labouring in Fort Custer with links to universities and biotechnology spec-

alists throughout the world, underlines the strength of the company's commitment.

Its main target remains the U.S. market, where Christopher McNaughton, head of the U.S. cereals division, still sees enormous scope for growth. He has a distinctly jaundiced view of the traditional concept of a "saturated" market. While average consumption of cereals in the U.S. is about 9 lb a head, in Pittsburgh the figure reaches 13 lb, and he sees no reason why the whole of the country should not become a nation of Pittsburghers.

Cornflakes is still Kellogg's main product in the U.S. and, despite the continuing war against sugar, Frosted Flakes (Frostito to Europeans and Zucartitas in Mexico) is still number two in the rankings. But these and others of the company's main lines traditionally appeal to mostly younger members of the community. Faced with an ageing population, the company must find new markets and create new products to fill them.

In the U.S. in the recent past it has introduced Nutri-Grain, a whole grain product sweetened with Nutrasweet (aspartame) which aims at the customer seeking more fibre and less sugar. Coming up is an old favourite with a new recipe: All Bran with extra fibre and Nutra-

sweet. Just Right, which includes 100 per cent of the U.S. Government's recommended daily average intake of nine vitamins plus iron and zinc, is pitched at women. TV commercials show elderly people eating Apple Raisin Crisp. On British TV Steve Cram is seen bounding around the mountains full of the glucose-laden Start cereal.

The object goes beyond the simple design of aiming a product at a specific market. Once the product is in the house, the company argues, then all members of the family will try them.

The U.S. food market offers extravagant rewards for successful innovators, and Kellogg is innovating with a will. While there is always the threat of me-too products appearing from among the competition, the costs can be phenomenal.

Although seemingly short on personnel, Kellogg's marketing department packs a mighty

IF THE citizens of Pittsburgh consume an annual 13 lb of cereals each, then the British are honorary Pittsburghers. Average UK consumption last year was 12.4 lb of cereals a head—the equivalent of 11 large packets—and 6 per cent higher than in 1983.

The cornflake habit has grown steadily since the company opened its first factory in the UK in 1938. Annual growth has averaged almost 3 per cent since the mid-1960s as the traditional cooked breakfast has faded. It has been given a boost more recently by pre-fibre propaganda.

Kellogg now claims 43 per



punch. A budget which allows it to spend \$20m on each new product's U.S. marketing in the first year alone pitches the newcomer high in the public consciousness.

This may intimidate the opposition, but it also ensures that the Kellogg market and product research is kept finely tuned. It has made its share of mistakes. Raisins, Rice & Rye, despite its healthy ingredients, is looking distinctly poorly. Says McNaughton: "If the U.S. consumer decides he doesn't want rye for breakfast, then there is nothing we can do about it."

The market was certainly ready for C3PO's, a pre-sweetened line for the millions who lost their hearts to the latter-day Tin Man who stalked the sets of the Star Wars movies.

"It looked like a winner. It took a big market share. It went straight in... and straight

The growth of the cornflake habit

cent of the total ready-to-eat market in Britain, way ahead of Weetabix's 17 per cent. However, it faces a strong challenge from the own-brands, which last year accounted for about 18 per cent of total business.

It has shown a similar performance in its other long-established markets such as Australia and Canada, where the company launched its first overseas manufacturing ventures in 1924.

Given these experiences, it holds out high hopes for the new ground it is breaking elsewhere in the world.

Scandinavia has been particularly rewarding, with the Danes and the Swedes now eating well over 4 lb a head. But, Britain apart, progress has been sticky in the more populous parts of Western Europe, which offer the prospect of the bulky turnover rates the company seeks. The West Germans eat twice as much breakfast cereal as the French, but this is small comfort considering that the average Frenchman's annual intake is still measured in ounces.

McNaughton is undeterred. "Almost all the governments

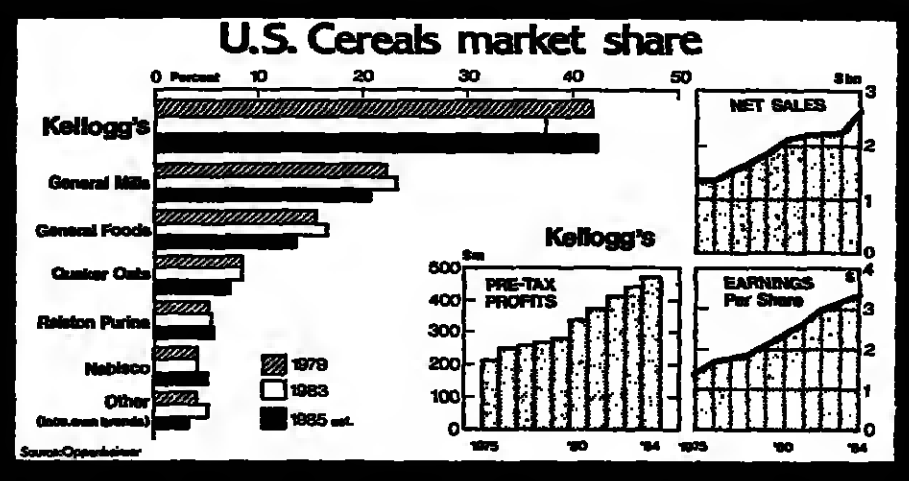
in the world are endorsing increased consumption of cereals and stressing the fibre aspect," he says triumphantly.

"This focus on nutrition and health has given our business a big third party boost." Kellogg's confidence is reflected in heavy investment in factories in Denmark, West Germany and Spain, all of which McNaughton classifies as good or potentially good markets. The people have relatively high incomes to afford the product and milk supplies are plentiful and cheap. Detecting that health propaganda is effecting a

shift from the traditional German breakfast of cheese and processed meat, he views the Federal Republic as "an outstanding opportunity."

The company also has high ambitions elsewhere. It has factories in six Central and Latin American countries, South Korea, and even a brown rice processing plant in Japan turning out Gennai Flakes. In Africa, Kellogg has long term plans to spread its operations from South Africa to the whole continent.

Wherever it goes, however, the ground rules remain the same. "We create products to a desired consumption profile to fit age, social and health needs," McNaughton says.



as C3PO and his pal R2D2, the animated dustbin.

It considers the money better spent in the R&D building, where, according to McNaughton, expenditure has increased four-to-five fold over the past few years. The insatiable demand for new products for the U.S. market is easily matched by management demands for cereals to tempt the masses in the world outside.

Rye did not work in the U.S., but it might appeal elsewhere. There are many other grains which might suit the Kellogg treatment and a thousand other products as yet untried. The company stoutly defends its efforts in the third world. To the unkind jibe that its packaging is as nutritious as the cornflakes inside, it replies that grain represents one of the few opportunities the developing world has for feeding itself.

"Other protein sources are not going to keep pace with population increases," says Stewart. Processing costs for meat and other conventional sources are too high for these markets and unlikely to come down.

Kellogg, in co-operation with other specialist companies, is already working on biotechnological methods for increasing the protein content of grain. For areas where milk is not available it is working on substitutes.

McNaughton is convinced that this single-minded approach to corn grits and its cereal cousins is correct. Pressure to diversify did bring about some changes—the company also makes fruit pies, yoghurt, tea and waffles and more recently it has joined the fringes of the granola bar business. In general, however, it has kept its head down because of the difficulty of finding acquisitions at

the right price to match or even approach its own average return on equity of 28 per cent.

Kellogg's main competitor, General Mills, is in turmoil at present as it retreats from the corpse-strewn toy market. Monopoly, children's records, Ned Flanders and Boggle blended in with Wheaties and Betty Crocker foods. In the meantime, it has lost market share in cereals. General Foods has also seen its market share slide.

Once the diversions are behind them these companies are certain to start fighting back. But Kellogg has the advantage of several years in which to pinpoint its objectives and develop the infrastructure which will help it attain them. It also has the advantage of a remarkably stable management. Most of the senior executives have been with the company for 25 to 40 years.



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TECHNOLOGY

Harnessing the potential of wave power

VAST amounts of energy have long been known to exist in the waves of the sea. But though projects to exploit it for generating electricity have become common, the waves' potential as a source of propulsion power for ships has only been explored more recently.

A British patent using the techniques was filed in 1985, and now researchers, particularly in Norway and Japan, believe they have developed hydrofoils which can not only extract power from the waves but reduce pitching and rolling in rough weather. The foils could also be powered, and the claim is that they are more efficient than conventional screw propellers.

Sea trials last year on a 180 gross ton fishing vessel demonstrated that the Norwegian system could cut engine power requirements by about 20 per cent in head waves, representing 32kW at 6 knots. Mr Einar Jakobsen, senior engineer at Oslo's Wave Control, the company behind the scheme, believes that even this result could be improved. The trials showed that the hydrofoil's support struts offered considerable drag and he has since considered using those, too, for providing power.

Japan's Hitachi Zosen Corporation is meanwhile seeking backing from the Japan Foundation for Shipbuilding Advancement—financed from betting levies on powerboat racing—to extend its work for two more years. Sea trials are planned with a 600 deadweight tonne ship and US\$ 250,000 is

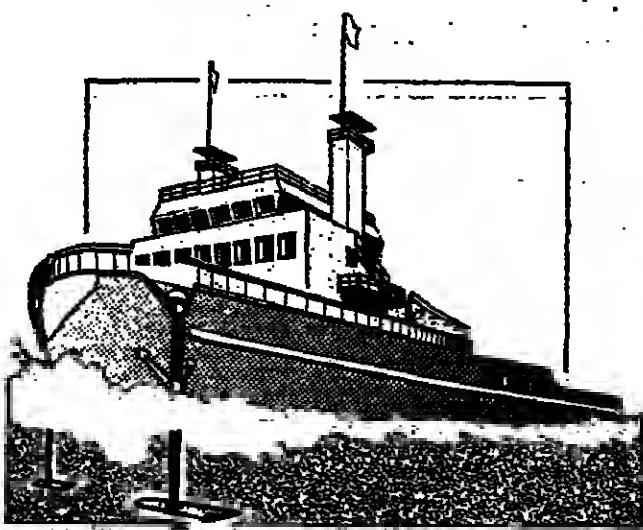
needed to pay for this and the supporting theoretical work. Dr Hiroshi Ishihara of Hitachi's Technical Research Institute has studied the effect of a ship's length on converting wave energy into propulsion. Tests with a two metre model showed that head waves with a 2.2m wavelength gave the highest speeds. Full-scale wave powered ships would therefore need to be designed to suit their particular routes.

Dr Ishihara analysed wave data

Researchers are developing ways of using hydrofoils to propel ships by extracting wave power, reports Paul Gunton

for the Japan-U.S. route and found that the commonest waves were ones at six second intervals, closely followed by waves of eight seconds. Their respective energies represented 11.7 kW and 20.6 kW for each metre of wave, so he proposed to concentrate on the eight second waves, which have a wavelength of 100m. His proposed ship would have a length of 80m and a displacement of about 2,700 tonnes.

Main engine power for such a ship would normally be about 515 kW (700 bhp). Dr Ishihara estimated, giving a speed in



Artist's impression of a foil system on a supply vessel.

calm water of 11.4 knots. Head seas would normally reduce speed to 7.1 knots, but the waves' power could actually increase it to more than 12 knots. "This suggests that the effect of the foil is very big," he said.

An analysis Mr Jakobsen commissioned from Veritec, a Norwegian marine consultant, also predicted fuel savings from wave propulsion. Veritec found that at nine knots, fuel consumption of a 70m ship could fall by 42 per cent. The higher the speed, the smaller the effect, so while there are 21 per cent savings at 12 knots, 15 knots yields only 9 per cent. Larger ships would also see savings, Veritec concluded. A 180m vessel operating in the North Atlantic would use 35 per cent less fuel at 17 knots and 9 per cent less at 21 knots.

Dr Ishihara and Mr Jakobsen were the main speakers when engineers studying wave propulsion gathered recently at University College, London.

Those keen on exploring the possibilities include a Strathclyde University team studying the stabilising effect of foils on offshore structures. Using their power for dynamic positioning is also part of the project.

Reading University is another centre where wave power research is under way. Reading's Professor Francis Farley, who arranged the London meeting, has a different approach from other teams. He argued that, since ship motions are so important to a foil's effectiveness, it would be best to establish the optimum conditions for the foil, and then design a hull to provide them.

Wave tank experiments are being conducted to measure thrust forces from a foil using computerised servo mechanisms to control speed, heave and foil angle. In practical use, sensors would be needed to monitor conditions at the foil itself, continuously adjusting it for optimum output.

Paul Gunton is deputy editor of The Motor Ship.

HOW WAVE PROPULSION DEVICES WORK

ALL the wave propulsion devices developed so far operate on the same principle. A hydrofoil, usually horizontal, is mounted below the water surface and attached to the ship. It is pivoted at the leading edge but restrained by a force which tends to return it to its neutral position.

Power is extracted by using the relative motion between the foil and the water, which is a combination of the wave motion itself and the pitch,

roll and heave of the ship. As the foil moves downwards, its trailing edge deflects upwards. The restoring force keeps it at an angle of attack to the water flow, so lift is generated. The forward component is useful thrust; the vertical part acts against the ship's motion and tends to steady the vessel. On the upward movement, the foil deflects down, but thrust is still generated. The effect is similar to that of a gliding aerofoil; the aim is to obtain

maximum forward motion from minimum vertical travel. Restraining forces can be produced either by simple spring systems, or from pneumatic and hydraulic arrangements capable of adjustment to suit vessel speed. In a proposal by Reading University, foil position would be determined from local conditions and fixed using servo systems to give a more precise arrangement. Constant trimming would get the best from foils.

Asymmetric sections which can change shape to suit upward or downward motion would further improve efficiency, as would carefully designed foil shapes to minimise tip vortex losses. Work at Sweden's Chalmers University in 1982 established that the best plan shapes would have curved leading and trailing edges. The similarity between these ideal shapes and the tails of fast swimming fish and mammals has not been lost on supporters of wave propulsion.

Mark Meredith on remote control undersea vehicles Deep sea oil exploration spawns a sophisticated breed of robot

FAR BELOW the waves in offshore waters, an advanced type of underwater monster, the remote-operated vehicle (ROV), is multiplying fast.

Although used for many years, the vehicles have now reached such a level of sophistication and development that they can take over much of the work traditionally carried out by divers.

Oliver in Aberdeen swears that "technology can never replace the dexterity and experience of divers" but the conditions and costs of developments offshore in Britain as well as other countries have concentrated efforts to improve underwater technology.

Exploration for oil is now moving from the North Sea into the North Atlantic, where drilling ships and semi-submersible drilling rigs will operate in horrendous weather conditions, and at depths of 2,000 feet or more. Divers usually operate at depths of less than 1,000 feet, which means that work on the seabed such as installing the guidelines for drilling equipment, changing seals and clearing debris can really only be done with underwater robots.

Another key factor in the next wave of offshore exploration will be the expense. Oil companies will be working to much tighter budgets as they develop new oil fields. Technology with running costs about one quarter of that of divers has grown up in the last two years to meet this demand.

A diver plus a special support ship equipped with decompression chambers and backup costs something between £3,000 and £5,000 an hour to operate. Added to that possibly 70 per cent of his work rates as time consuming rather than demanding.

Companies like Comex Houllier, Diving or Wharton Williams, which both employ divers and run remote-operated vehicles, argue that the technology, while taking on a good many divers' chores, will leave them free to handle more challenging underwater work. Divers in the UK are nonetheless worried and a recent slump in demand for their services has not helped matters.

The requirements of the North Sea in particular have helped British-based companies

like the Oseil Group of Great Yarmouth or Bédouco in Aberdeen generate equipment with strong export potential. The market is estimated at about £20m to £25m a year. This compares with the current market for divers estimated at £110m.

Today the challenge has moved from the vehicle itself to its appendages and control systems. The trade speaks of the



Undersea template worker

tari — the central vehicle with its hydraulic thruster, propellers for manoeuvrability and power — as well established and reliable.

Attention today is on what is plugged on to that vehicle. Below Oseil's Dragonfly Vehicle, for example, a whole variety of equipment can be fitted, including television and stereo cameras for observation and manipulators for turning bolts and valves, devices for cleaning platforms, ultrasonic fault detection equipment or non-destructive test equipment.

Oseil, with advice from its client, Comex Houllier, produced the Rigworker, a smaller version of the Dragonfly to work within the template of Conoco's Mutton platform. The template works like a vast steel frame slid into the seabed guiding drillstrings and offsetting pipes.

This co-operation led to further refinements including a type of garage or cage to protect the ROV as it is lowered from powerful cranes in the so-called splash zone. The vehicle awakes out of its cage on its own umbilical cord. It can be dragged back into the cage if there is a failure during the operation.

To date U.S. underwater technology has dominated the market, but now it is being superseded by equipment such as Oseil's film Dragonfly, which can operate at depths of 6,000 feet, its smaller UFO camera-equipped vehicle and the Duplus, a system which will allow focused or unmanoeuvred use at depths of 3,000 feet.

The Dragonfly was developed jointly with GEC Avionics with support from the Department of Energy's Offshore Supplies Office, which monitors and encourages British participation.

This year Bédouco, an Aberdeen-based company, introduced its Triton remote-operated vehicle developed to British specifications by the company's Florida-based affiliate, Perry Offshore. It is developing a range of equipment on slides to be attached below the taxi vehicle, which has 50 horsepower strength and can sit 2 tonnes underwater.

The controls and supply lines for the vehicles are attracting almost as much attention as their attachments. The development of fibre-optics has enabled a large number of control and information signals to be sent down one line. Multiplexing equipment at either end sorts out the signals passing it on the various operations. Computer developments in controls and instrumentation have radically altered the communications and operation of the ROVs.

Fibre optics lines from the ship to the vehicle below have led to problems of flexibility in the ship ring, a swivel attachment which allows the vehicle to turn without twisting its umbilical line to the surface. These are now being overcome.

The ROVs have also had to cope with problems of torque. As automatic winches tighten or loosen a bolt, the vehicle must steady itself on the surrounding structure using magnetic feet.

Mr Tom Elbert, managing director of Comex Houllier Diving, foresees the use of ROVs for the new generation of seabed wellheads which will require machinery able to help investigate faults. Special needs will breed dedicated equipment for the ROVs — for instance, tools which can both override sensors monitoring the performance of a valve and operate the valve.

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The new sheet, EZN-UC, was developed for the motor car industry to replace conventional zinc-plated sheet. It is coated with a zinc-nickel primer. Micro-metal is used for automobile body panels. The new sheet was designed to overcome the problem of peeling or flaking of zinc powder during forming and at the same time improving weldability and workability.

NKK's own tests show that EZN-UC allows the formation of red rust only slightly even after exposure to 300 cycles of corrosion testing over 70 days.

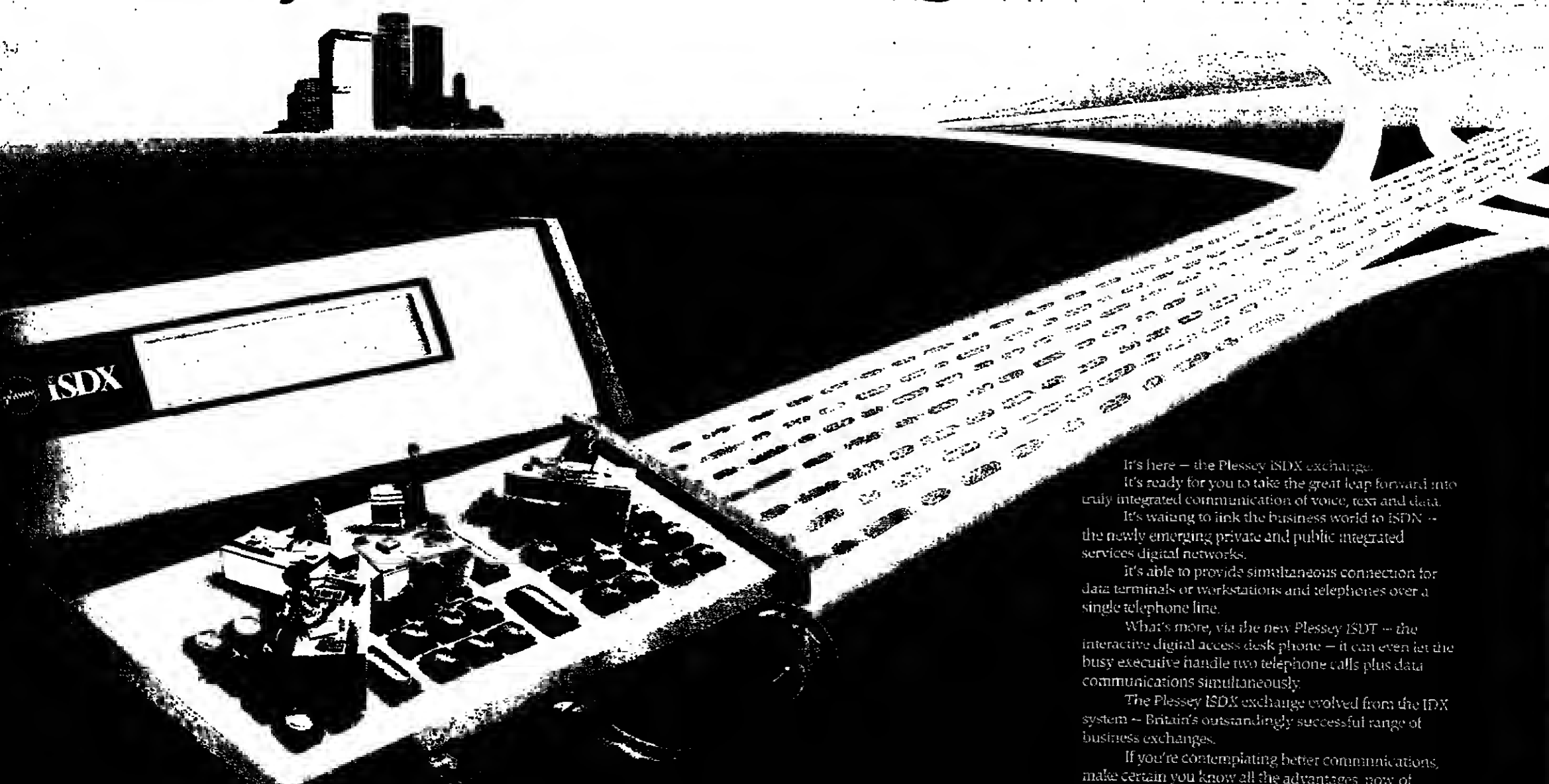
To meet demand, NKK has commissioned a new coil coating line at Fukuyama Works with a monthly capacity of 3,000 tonnes.

Philips heralds TV adapter for MAC reception

A SPECIAL adapter making it possible for conventional television sets to receive programmes from broadcast satellites transmitting in the new MAC standard will be ready by the beginning of 1987, Philips Electronics claims.

The adapter connects to the television set and to a parabolic (dish) aerial outside the house. MAC transmission prevents interference effects in picture reproduction and improves sound quality. Philips is contemplating a gradual conversion to high definition television where the picture quality will be equivalent to that of 35mm film. The MAC standard adapter is a step in that direction.

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PLESSEY

RESOURCES REVIEW: CHINA

The long haul to self-sufficiency

By Colina MacDougall

A COUPLE of weeks ago, a plaintive letter in Peking's English-language paper China Daily grumbled that rocketing numbers of university students were consuming the nation's precious electricity by holding fry-ups in their dormitories. This is just one symptom of the alarming shortage of power and other fuels which is hampering China's growth. This year it is worse, thanks to a top-sided burst of development in industry in the first half of the year.

Power generation was 50bn kWh short of demand this year, Qian Zhengying, Minister of Water Resources and Electric Power, declared in August. The power shortage was "very serious" everywhere in China except the far west. With total output expected to run at about 400bn kWh this year, the gravity of the situation is clear: there is no way in which China can make up so large a power deficit with present facilities.

Peking has far to go in expanding energy resources so that even students can stir their works over a modern fuel. Production of coal, power and oil is steadily rising but is hampered by old technology, inadequate transport, lack of investment and bureaucratic wrangling.

The power shortage is the single biggest handicap for Chinese industry. It is not just that there are not enough power stations. When 80 per cent of power is coal-generated, the knock-on effect of groaning rail transport from the coal-rich north-west is considerable. Absurdly, last year China had to ship coal into Shanghai from Australia to help make up the shortfall.

Peking has ambitious plans to fill these gaps. A programme to develop resources to produce at least 1.2bn tons of standard coal equivalent by the year 2000 is on the stocks. This will require output of at least 1.4bn tons of raw coal, 200bn tons of oil and 1.2bn kWh of power, the World Bank stated in its 1985 report on China. On these levels of growth depends China's plan to quadruple industrial and agricultural output by the end of the century.

In 1984, production was 779m tons of coal, 114m tons of oil and 375bn kWh of electricity. The World Bank's report did not disagree that China's targets for the year 2000 were attainable, though it suggested that emphasising the service sector instead of production would

lighten the burden. Nevertheless, China obviously has a very long way to go in the next 15 years.

China's development policy since the 1970s has been to focus on coal and oil as both are exportable commodities. This has required new railway lines, one of which (Detong-Qinhuangdao) is on the way to completion. Next has come nuclear and to some extent hydro power, since both would solve shortages in the handicapped non-coal areas of China. But as thermal plants have been soft-pedalled, there has been a marked slackening in the rates of growth of power generation.

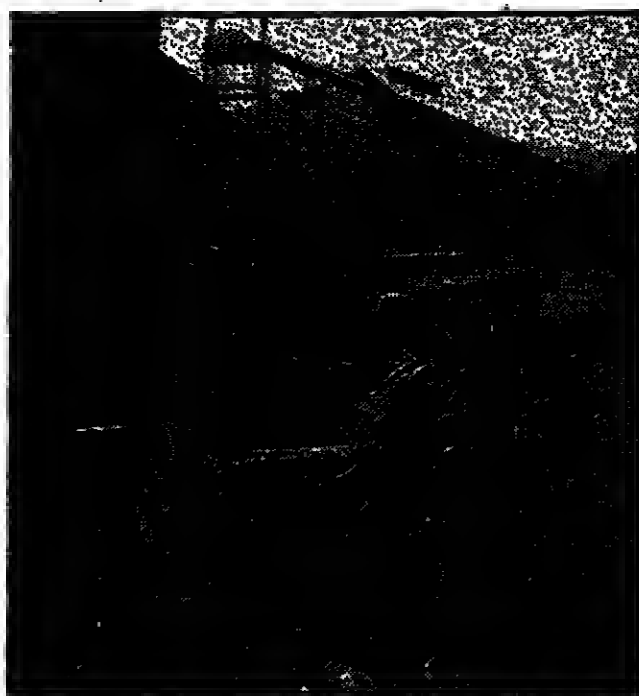
China has no shortage of coal. Reserves are put at around 780bn tons. Production has already risen by over 25 per cent since 1981. The newly-appointed Coal Minister Yu Hongen, said recently that the target for 1990, the last year of the seventh five-year plan, would be 1bn tons.

The Chinese are investing heavily in large, modern mines. This year 130 mines with a total annual capacity of 131m tons are under construction. Many of these are Chinese-built (China has 34 factories churning out mining equipment) but some of the largest projects will have a sizable foreign input.

The first Japanese Exim-bank-financed mine, with a 3m tonne designed capacity, at Xiqu in Shanxi province's Guifeng field, started production earlier this year. Work has begun on the Luan mine in Shanxi with loans of \$85m, \$125m from the World Bank and the rest from West Germany and the UN Development Programme.

Industry reports say the Shell Coal International feasibility study on the Jining No. 2 mine in Shandong is completed and negotiations on a joint venture will begin shortly, but the company will not confirm this. National Coal Board proposals for extending the Tangshan mine in Hebei were presented earlier this year, but long delays are likely because of site problems.

However, Romanian technology has gone to the Bailong mine, which will be paid for in coal from its 1.2m-ton planned output. The Italian company Technoidea has sold \$150m worth of coalfield equipment to the China Southwest Energy Resources Corporation, probably for mines in Guizhou



Women workers at a coal mine in Shanxi province.

province. Potentially the biggest projects are the proposed open-cast mines in Liaoning and Shanxi provinces and Inner Mongolia.

Fushun in Liaoning is being upgraded, with Fluor of the U.S., to produce 5m tons of coal and 10m tons of oil shale annually by 1988. The \$650m joint venture between the U.S. company Occidental's subsidiary, Island Creek Coal, was finalised in June after years of haggling over prices and work at the Pinghuo site has begun.

Sites at Huotshu, Yimshu, Jungar and Yuenhsueh, all in Inner Mongolia, have been surveyed by foreign companies and at least one — the U.S. Bechtel — has a contract for a mine and coal dressing plant.

But the transport of coal remains a problem. The Chinese need to move it from the north-west to the coast, to supply industry and the export trade. The new heavy-duty rail line from Datong in Shanxi to the port of Qinhuangdao, and a further planned west-east line, are not yet finished.

In contrast to China's abundant supplies of coal, oil reserves are problematic. Modern technology imported

into major fields like Daqing in Heilongjiang province has stepped up output from an early-1980s plateau of around 100m tons annually to an expected 120m tons or so this year. But these fields — especially Daqing, which produces around half China's output and has done so for the past 20 years — will run out in the foreseeable future.

These Chinese have made no major discoveries to replace them. Foreign teams have been surveying under contract in China's far west but no finds have been reported. Several years ago China's planners blithely assumed a major bonanza offshore, and this has failed to materialise.

After two years of drilling offshore, foreign companies are depressed. "There are no big fields out there," says Mr David Harding, formerly in charge of BP's South China Sea operation. Apart from Arco's strike of gas off Hainan Island there have been no significant finds.

For mainly political reasons, the French company Total is developing a small field in the Beibu Gulf off southern Guangdong, along with the Chinese. Three others by Esso, ACT and Phillips, are mar-

ginally commercial. BP and Chevron-Texaco's wells in the South Yellow Sea have come up with little.

In the Bohai Gulf to the north, the French company Elf has pulled out. While the Japanese are developing small finds with the Chinese side, this is probably just to maintain good relations.

"The best area may be the East China Sea, where the Chinese are drilling on their own," Mr Harding added. "They've made two or three discoveries, but of course we don't know if they're commercial by Western standards."

Though the full implications of this disappointment still has to sink in among Canton officials who continue to build an enormous new oil centre, it is registering in Peking. A smaller number of foreign companies put in bids for the second round of drilling block allocations earlier this year, and they've made the terms tougher.

In a first response to the changed conditions, Peking has opened ten provinces south of the Yangtze to foreign onshore exploration. However, this is not an inviting prospect. Sichuan, where gas and oil are known to exist, is excluded. Other Chinese oilfields are in the north. The probable negotiating tussles with local bureaucracies over traffic rights and the like are very off putting.

So far only one foreign group has nibbled at the bait. An Australian consortium led by CSR Orient Oil Pte. Ltd. and including BHP agreed last June to explore a small area on Hainan Island off Guangdong.

China's development of nuclear power, planned for regions far from coal resources, is way behind schedule. The first plant, essentially a joint venture between the Chinese and Hongkong's China Light and Power Company, at Daya Bay in Guangdong, will not be on stream till at least the mid-1990s. Though site work has begun, contracts with the proposed equipment suppliers, Framatome and GEC, are not yet signed.

"The Chinese are still moaning about the price," said one observer.

The Chinese are building a small 300 MW plant on their own (but with some imported equipment) at Qinshan near Shanghai. They plan another (800 MW) at Jintan, broadly

in the same area. Two 1,800 MW plants with considerable foreign input are on the stocks for Jiangsu province (at Xuyuan) and Liaoning, which KRWU and Westinghouse are reportedly chasing, but these now seem likely to be deferred because of foreign exchange costs.

Delays on the nuclear sector might speed the development of China's hydro-power resources which currently contribute only about 20 per cent of electricity generation. Three rivers could support massive exploitation, the upper Yellow River, the middle Yangtze, and the Hongshui in south-western China. So far, however, the environmental problems and costs have postponed final decisions on the overall plans.

However, work has begun on some areas. The Gezhouba dam on the Yangtze is under construction. So are two of the ten planned for the full Hongshui development, the 1,320 MW Tianshengqiao phase 1 and the 1,375 MW Yantan. Two more in Yunnan are also under way, the 1,500 MW Mawan scheme and the 600 MW plant at Lubu (the latter with World Bank finance).

With the growing availability of coal, thermal power generation will get a new boost. According to the latest issue of the semi-official U.S. magazine China Business Review, more than two-thirds of the 30,000-40,000 MW of new capacity the Chinese plan to add in the next five years will be coal-fired. Equipment for some 10,000 MW of this will be imported for power stations in the east coast cities.

Japanese and West German companies are pursuing contracts for this equipment with vigour. "We may see deals made before the end of 1986," said one industry executive.

At least one foreign company, Kanematsu Goshu (which has reportedly invested in two power stations in Shenzhen, adjoining Hong Kong) has formed a joint venture with a Chinese locality.

The swing to thermal power is probably a wise move by Peking. Conventional power stations need a far shorter lead time than nuclear or hydro, and more coal and better transport seem likely to be available in the foreseeable future to make them a practical proposition. If the plan succeeds, in a few years China's power may begin to catch up with spiralling industrial demand.

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THE ARTS

Architecture

Colin Amery

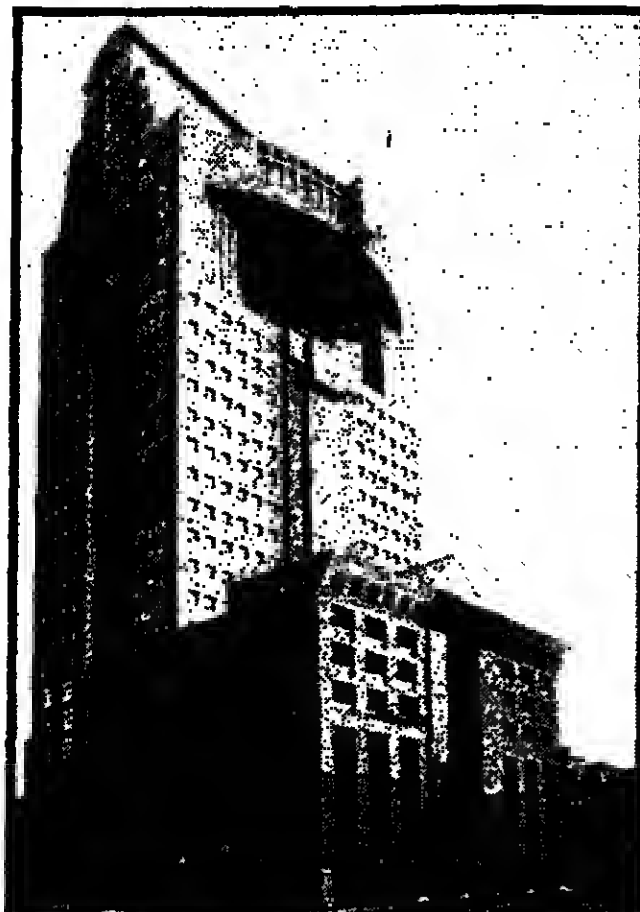
The \$60m question mark

An important representative of the new architecture is now complete and operational in downtown Louisville, Kentucky. The architect is Michael Graves and the client the health care and hospital group, the Humana Corporation. It is a significant building in the architectural debate that accompanies the end of the era of the glass box. Like all polemical statements the Humana Building is likely to arouse both ire and praise. I would like to be able to say this is the answer—a bold and brave and complete aesthetic statement that unites form, function and decoration. But Graves has only partly succeeded.

Critical opinion apart the story of the Humana Building is important. It represents a bold effort of patronage by a company renowned for its commercial expertise in the American health business. Mr David Jones, the chairman, and Mr Wendell Cherry, the president, initiated a competition back in 1982 for "a piece of architecture of national significance." They decided to proceed by a series of interviews and invitations, finally limiting themselves to a shortlist of five architects. The five selected firms were Cesar Pelli and Associates, Ulrich Franzen/K. Kroeger and Associates, Murphy/Jahn, Foster Associates (the only British one) and the winner, Michael Graves.

This is a bold and commendable way for a commercial company to pursue. It takes a long time and it costs money. There is a serious risk involved because the commitment to build the winning scheme means that the relationship between the client and the selected architect has to go beyond the design. The programme for the Louisville competition was short and lucid with considerable emphasis on the need to "encourage innovation and quality architectural design in Louisville."

The new tower of offices is on the east bank of the Ohio River. From the top of the 417 ft tower these is a spectacular view of the falls that mark the birthplace of this flourishing



The Louisville headquarters of Humana: answer to the glass box?

Kentucky city. The immediate context of the building points up the irony of its own cubist language. Its neighbours are all slab or box—some of them by Mies van der Rohe, a stained and bleeding example of the unwise use of rusting steel.

The context establishes the argument. Graves has set out with a budget of \$60m to prove that it is possible to enrich the form of the tower, to reintroduce colour, decoration and fine materials. He both succeeds and fails. The street line of the

base projecting forward from the tower with its giant cornice and elaborate swirl of colonnades and fountain is a success. The middle of the building, the largest part, is a rigid arrangement of floors and windows that is insufficiently articulated or varied to be of the least interest. The top of the tower is a Mayan sloping, buttressed temple—elegant but, like so much of Graves's work, heavy in detail.

Graves wants to enrich the language of architecture and ornament; he is bursting with

ideas, but too many of them have gathered here in one place. The interiors are something of a revelation. You push open the heavy bronze doors and feel as though you have stepped back in time. Gleaming floors of marble are arranged in patterns of white, green, beige and pink—some 45,000 sq ft was shipped from Italy and France. On the main axis of the lobby is a marble rotunda encircling a sky-blue dome. Lifts are lined with hideous maple; ancient Roman sculptures stand sentinel.

The richness in colour and furnishings continues on the boardroom floors and is complemented by modern works of art and Secessionist furniture. The interiors of Joseph Hoffman are strong, and in the treatment of the terraces shades of Schinkel and Potsdam are evident.

The Humana Building reveals Graves as a skilled exponent of a new, but unsatisfactory language. He is a master of a certain style and he practises it with all the fervour of Madison Avenue. Where is the noble simplicity and calm grandeur? I have always thought that Michael Graves is an important phenomenon in the transition from the austere orthodoxies of modernism. He clearly feels that it is crucial, at this stage, to overstate the case. Humana is indigestible and ugly. The designs that Graves has prepared for the Whitney Museum's expansion in New York look as though he has reached a calmer resolution. Louisville demonstrates that the arguments have not been settled and that the artist's palette is still an uncertain one.

Graves should not be discouraged because he is developing a new language. At the moment it is too rich and at sea in the area of taste. He is right to wave the flag of change, but the Humana shows that he is likely to be seen as more of a stylist than an innovator. The Louisville skyline remains the best place to witness, writ large, the architectural struggle of our time. It raises the questions but carries the answers with unresolved flourishes.

Intelligent Life/Plymouth, New York

Frank Lipsius

Lily Tomlin's solo show at the Plymouth, Theatres for Signs of Intelligent Life in the theatre introduces a new repertoire of articulate, eccentric characters for one of America's favourite comedians. Roaming across a stage with a couple of chairs, a stool and a three-step stool, she has cut back on props and moved her characters from oddball loners to couples with the anxieties and preoccupations of the 1980s.

Miss Tomlin is herself only at the beginning of the show, when she makes a Japanese bow and launches into a brief monologue about the things that worry her, like the absence of meta-physical fitness programmes. From there she makes a quick change into an old friend, Trudy the bag lady, who tells how much her life has improved since she had shock therapy; through it, she met a consensual band of extraterrestrials looking for intelligent life on earth.

The search beams in and out of Trudy's consciousness, with lightning flashes to mark the rapid change from the likes of middle-aged upper middle-class Kate in New York beauty parlour to teenage Angus wearing coveralls and chains. For the most part the

characters do not have the loudmouth put-down quality of Ernestine, the telephoneist, who disappointingly does not make an appearance. Compared to Miss Tomlin's previous Broadway show, *Apprentice Mice* (a Tony-award winner in 1977), this crew, shorn of costume and set changes, seem more serious and grouse about contemporary America rather than other people.

A change has come over Miss Tomlin and her long-time collaborator, writer and director of the show Jane Wagner. The scenes pack a punch with perceptions and characteris-

tions that go beyond laughs, though there are plenty of laughs too. Miss Tomlin exhibits remarkable verbal and physical gymnastics for the 10 different characters she depicts in the first act but they tend to be more weird than appealing and do not establish personalities beyond Miss Tomlin's concerns. The second act is dominated by Lynn's long reminiscence of a California yard sale. Looking through mementoes, like an autographed copy of the first issue of *Ms* magazine, Lynn provides a personal history of the women's movement and women's lives as

she goes through everything from lesbianism to motherhood, with kooky, profound and funny experiences along the way.

The diverse characters meet up at the end in front of Carnegie Hall to round out the evening before the extra-terrestrials take off for other parts of the universe. The one disappointment is that Miss Tomlin is never herself again. The Louisville skyline remains the best place to witness, writ large, the architectural struggle of our time. It raises the questions but carries the answers with unresolved flourishes.

Arts news in brief

Michael Finnissy, Jonathan Harcourt and Bernard Rands in particular, all of whom will be participating. There will also be an exhibition, with performance, of sound sculptures, a specially commissioned late-night music theatre show from TNT, and a competition for young composers.

The London Festival Ballet is to launch a new company of 10-15 dancers, drawn from and interchangeable with the main

company, to tour small venues district-wide, or small orchestras, and to present newly commissioned works.

"LEB" will make its debut in Hexham on November 5. The company will also perform the performances of Christopher Bruce's *Land*, Béjart's *Song of a Wayfarer*, and Schaeffer's version of *Bourtonville's Dances from Napoli*.

The company will make its first London appearance at Sadler's Wells for one week from November 25.

Lulu/Grand Théâtre, Geneva

Ronald Crichton

It was in Switzerland, at Zurich in 1937, that the incomparable Lulu, the opera Lulu, was first shown to the public. Now Geneva has marked the Berg centenary with a production of the complete three-act version as completed by Gerhart Hauptmann, the master director, and his Austrian designer Erich Woodner have set the rise and fall of Berg and Waskind's earth-spirit woman to a dream (or nightmare) Fritz Lang landscape of vertiginous downward views of skyscrapers, glimpses of wharves with junk and upward glances through murky, troubled water.

All this on backcloths unwinding like cadenced scrolls, underlining the rise and fall of Lulu with elaborate symbolism, moving so much (even during the interludes, when black-clothed stagehands in silhouette silently officiate) that one tends to stop watching to listen closely to the music (unfortunately the treatment of the interludes with one important exception noted later, encourages not attention but whispering in the stalls).

The designer's starting-point, he claims, was the continuous motion, lurching, jump-off, "water-walk" lifts of Vienna, but his acting space looks more like the top of an electric elevator in a skyscraper with the works showing. With Manhattan, Shanghai or wherever, the moving up and down in the background the claustrophobic effect of Wedekind's scenes (all interiors) is weakened, though Frida Paragagliani's predatory women's clothes, inspired by Otto Dix paintings, with their wide, low handbags, bead necklaces like breastplates and soaring feather beaddresses, are undoubtedly indoor wear.

More serious is the difficulty of relating this view of the text (carried out with the high

finish one expects in Geneva) with this reading of the music. Mr Tate and the Suisse Romande Orchestra play Berg's score with an infinite range of colour and sensibility stretching from an attack as sharp as a Swiss penknife to nearly (but never quite) inaudible murmurs of an exquisite delicacy, something long and ardently desired in Lulu but, by my ears at least, only fleetingly heard, until now.

The rewards are great both for ear and understanding. Never, surely, can so many of the words and tortuous vocal lines of *Lulu* have come through so clearly. Unfortun-

ately, perhaps inevitably, not by any means all the singing of a thoroughly well-prepared cast matched the quality of instrumental sound. Listening the other day to records of Selma Kurz stroking Meyerbeer arias, I wondered sadly why Lulu couldn't sound like that. One need not be mad about Viennese charm to perceive that the Viennese strain in Berg is seldom evident in the way Lulu is sung and played. A short two might soften the notorious asperities, which don't necessarily reflect the bitterness of Wedekind's two plays.

The American soprano Patricia Wise, the Lulu at Geneva, has been heard at Covent Garden and Glyndebourne. Her good looks, even features and large, dark, silent-film eyes (for the unusually successful short film for the central interludes, she is photographed) are an asset. Though the colour of the voice was as monochrome as her off-white costumes, Miss Wise strained less than any Lulu I can remember. Until the theatre scene began to take the usual toll one felt she might sail through the opera unscathed.

She did not quite do that. The diabolical casino scene taxed her in its turn in spite of the conductor's defiance and the producer's sensible way of keeping the principals down front. In the earlier stages Miss Wise had been mannered, jerkily artificial. After the climax she was serious, more natural. The confessional Song was powerful, the end moving. Franz Ferdinand Nentwig is not the first baritone to make a sharper effect with Jack the Ripper than with the longer role of Dr Schön, in which he was reliable but low-keyed (why do producers make Schön look so scruffy?).

The Schigolech of Carlos Feller and Athlete of Bodo Schwaebek were both so positive as to save the essential but vulnerable element of black farce from disappearing altogether from this open-to-the-winds setting. This Schigolech, instead of being a picturesque old scab on the margin, seemed to be pulling the strings. The painter of Richard Greger had the same cutting edge. Ronald Hamilton's Alwa, intense and committed, was thickly sung. Possibly because her voice has hardened, Yvonne Minton's adoring Countess Geschwitz goes deeper than her Paris Opera portrait. Miss Minton looks even more distinguished than before.



Patricia Wise and Franz Ferdinand Nentwig

Who Plays Wins/Vaudeville

Antony Thorncroft

For the next few weeks Peter Skellern and Richard Stilgoe are reviving sophisticated revue in London: two men, one piano, and some pointed songs about British follies. But before you reach for the clichéd parallels of *Claret*, this duo do spike your own review with their parody, "Blood, blood," about bemphillies and AIDS: this is punchy stuff.

Not the set of plastic palm trees, nor the props of black ties and dinner jackets, but the usually panned repertoire is extremely barbed, especially the contributions of Stilgoe who acts like an ascerbic but witty pundit where Skellern retains some languid reserve. Quantity of surveys whizzing and singing and singing folk songs choruses get it early on, followed by ecologists, James Galway, and the Sinclair CS. But there is no escape for *Claret* and *Claret* in a modernisation of "La Mer" while the severest debunking is reserved for school dinner ladies.

There is little political content but when it surfaces it scores quickly to left and to right: there is a poignant number, "By God We're Gonna Now," in which a Rhonda choir against a black cloth of pits hemoans the fact that it has plenty of time to perfect its harmony. "Mr James" makes effective play with the nonsense of ethnic studies in schools and a consequential all-white steel band.

After the interval it is time for individual party turns, with Skellern managing one of his plaintive love songs amid the

Irving Berlin revivals, and Stilgoe showing off rotten by getting the audience to shout out silly words and then writing a song around them. To further emphasise how easy song-writing is, the pair sing the front row to provide the tune. There is nothing to tax the brain or stretch the imagination in this amiable diversion but if you want to hear about the Australian lady cricketer with the mighty bouncers known as Lilian Thompson, or wonder what an English girl singing in Swedish in the Eurovision Song Contest sounds like, here is your chance. It is all rather cosy although in "Two pals in harmony" the pair sing to death—like Mozart and Salieri. Fortunately there seems little jealousy here: just some easy pleasing of each other and the audience.

Anthony Hopkins to play Lear and Antony

Anthony Hopkins is to play two Shakespeare roles for the National Theatre after finishing his run as Laertes in *Rox* in David Hare and Howard Brenton's play *Pravda* currently in the Olivier). King Lear, and Antony in *Antony and Cleopatra*.

Judi Dench will be his Cleopatra, which will be directed by Peter Hall; David Hare will direct *King Lear*. Both productions open in the Olivier Theatre, *Lear* in December 1986 and *Antony and Cleopatra* in April '87.

Giselle/Sadler's Wells

Clement Crisp

There is real fascination in watching a young Giselle embark upon this most subtle of the traditional ballerina roles. We study the signs, physical and temperamental, which will indicate how she may reconcile peasant girl and compassionate wraith, earthly and other-worldly love, and wa wonder if youthful eagerness will be refined with age into that pure essence of the character where dance and drama are made one (it is the process we have been fortunate enough to see over two decades with Natalia Makarova, from her prodigious early performances with the Kirov Ballet in London in 1961).

Leanne Benjamin, a young soloist with Sadler's Wells Royal Ballet, has just set out on this same arduous journey. She danced her first Giselle in the Royal Ballet School's annual performance in 1982, her natural gifts of springy jump and dramatic resource telling of her suitability for the part. On Friday night, as SWRB brought back Peter Wright's intelligent staging into the repertoire, we saw her Giselle again.

Circumstances should have been more fortunate, for I am told Miss Benjamin was suffering from a viral infection, but never in doubt. Her long-limbed physique, her maturing dramatic power—so evident in her playing in *Metamorphosis*—already mark this Giselle with individual touches. Some

forcing of effects in the first act dances I would ascribe to her indisposition, but the nervous drive of the mad-scene, and the flowing of the wills line spoke truly of her abilities. That she is a Giselle there is no doubt. What now must take place is the long process of purification, technical and stylistic, which will make this enduring triumph of Romanticism clearer and more intense to Miss Benjamin as to her audience. It will be a process well worth watching.

The Albrecht, Roland Price, has much to do with the dignity of his reading.

He shows us a wilful youth trapped in his own immaturity, whose journey of self-discovery is marked with bold gesture and bold dance. The staging remains eminently sound, performed by a company engrossed in its development, with exceptionally fine dancing from Lili Griffiths and Iain Webb in the peasant sextet, clean-cut, sure and elegant.

The production is, though, in need of re-designing. The settings are murky, and the lighting in the second act knows no nuances beyond a blinding illumination on the waltz but also destroys atmosphere and shows up the mechanics of the painted flats. The Courland hunting party look risible in their marvellous costumes, which seem to invite manic gesturing of the Basil Fawlty school. Production and performance are too serious not to be better framed.

Covent Garden/Antony Thorncroft

Spend now, save later

On January 9 next year the Royal Opera House at Covent Garden presents its most glittering new production of the season. Sir Peter Hall returns after a 14 year absence to produce Verdi's *Otello*. The title role is sung by Plácido Domingo, Kiri te Kanawa is Desdemona and Renato Bruson Iago. The conductor will be Carlos Kleiber.

With such a desirable production the Royal Opera House believes it is in a position to take a financial initiative: it is considerably increasing the prices of 70 per cent of the seats. The cost of the best seats will be more than doubled, to £75, and only the amphitheatre escapes with an increase of just £1 for the majority of seats there.

This is not a revenue raising event through a first night gala. All six performances of *Otello* will be sold as benefits, and the Opera House will raise £300,000 in extra income. Such measures happen in some continental opera houses but for London it is an innovation. Sir John Tooley, general director of Covent Garden, justifies it on the basis of the financial situation.

If it did not take the opportunity to maximise its revenue the Opera House would be forced to raise its general admission prices from January 1, only last months after the last rise.

While keeping 30 per cent of the house, and that patronised by the younger and poorer opera

lovers cheap, Sir John believes that the cost of good house-keeping justifies the means of playing to the rich. Covent Garden knows that the Arts Council is unlikely to receive aid from the Government in 1986-87 that it feels it needs, and that its clients are unlikely to get a subsidy increase in line with inflation.

It feels it is in a strong position since the Priestley Report into its operations gave it good marks and it is pursuing the economies in its backstage operations that Priestley suggested. It is also feeling buoyant because its major gamble of the season, *Donnerstag aus Licht*, by Stockhausen, has done better than expected. Covent Garden was budgeting for a box office of around 60 per cent for the six performances and in the event has achieved over 80 per cent capacity. It still faces the possibility of a small rise in Government support in 1986-87 but at least it is doing its best to balance the books.

London City Ballet's royal gala

The London City Ballet is holding a gala performance in the presence of its patron, The Princess of Wales, at Sadler's Wells Theatre on December 15. The programme will include the world premiere of a ballet by Wayne Sleep.

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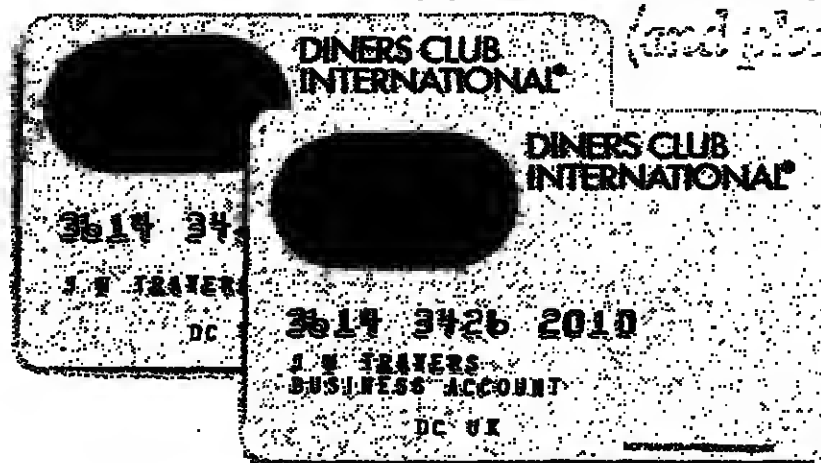
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Monday September 30 1985

London's role in commodities

A NEW chairman—tomorrow joins the London Commodity Exchange, Britain's once proud marketplace for sugar, cocoa, coffee and—more recently—gas oil futures, at a crucial moment in its history.

As he takes up his appointment, Mr Saxon Tate, former chief executive of the Northern Ireland Industrial Development Board, faces a twin challenge: how to arrest the decline in trading volumes on the traditional soft commodity markets, and how to steer them safely into the new era of City regulation.

Trading in the four LCE commodities is down by about 30 per cent this year. True, this partly reflects the depressed state of commodity markets in general and of agricultural ones in particular. Large and increasing surpluses of supply in just about every product have driven prices down, and smothered trading interest; the inflationary environment of the 1970s, of which commodities were the main beneficiaries, has made way for one dominated by currency and financial market volatility.

But there is no disguising the fact that even in today's stagnant conditions, other commodity trading centres have been gaining market share at the expense of London. Trading in coffee in New York, for example, is 8 per cent up this year, on the LCE it is 17 per cent down. The sugar contract is faring even worse; because of a mistaken decision to change the quotation to dollar contracts, it has lost a large portion of its market both to New York and to Paris. If anything, the competition from overseas is intensifying.

Lucrative novelty

By comparison with those in the U.S., London's markets have in general been slow to change. The powerful Chicago futures exchange, for example, has been slow to change its focus from agricultural commodities to a more general range of commodity price risks, more than ten years ago, but it was only last year that London's International Financial Futures Exchange (LIFFE).

Efforts to set up crude oil futures trading in London to match the success of the New York Mercantile Exchange, etc., also stumbled once, and the International Petroleum Exchange is only slowly coming round to trying again.

Mr Tate needs to act quickly to stamp his authority on the LCE if it is to have any chance of reversing the decline. There

are two immediate issues: one concerning the structure of the exchange; the other regarding the overall regulatory framework.

At present, the LCE is divided into four separate markets, each master in its own house, dominated by traditional traders, and extremely jealous of all the others. This reflects the generally fragmented nature of London's commodity markets.

If London wants to compete with the more centralised and much wealthier U.S. exchanges, these individual markets are going to have to sacrifice some of their power. The LCE's planned move to an expensive new building in two years' time would provide an ideal opportunity for restructuring the markets—perhaps by bringing some of them together on the same trading floor as in Chicago or New York, to cut costs.

Regulation is an even thornier question. Many of the younger people on the markets accept that the only way they can achieve a much-needed boost in trading volume is to attract more interest from ordinary investors.

Short-sighted

Speculators are necessary, to carry the risks brought to the market by traditional hedgers. Volume is also necessary, because the LCE's finances are heavily geared to turnover. This year, the markets have an obvious opportunity to act, following the Chancellor's decision to give futures dealers more favourable tax treatment in this year's Budget.

Nonetheless, the fact remains that the public image of commodity trading in Britain is poor and under the current system, investor protection is minimal. Efforts to promote a self-regulatory organisation for the futures markets, the Association of Futures Brokers and Dealers, are proceeding very slowly.

Admittedly, it is the worst possible time to try to graft regulation on to an industry which is already suffering from depressed turnover and increasing losses. The traders who use the LCE simply to hedge physical cargoes of cocoa or sugar do not see why they should have to pay for an organisation without perceptible direct benefits for them. Mr Tate's message should be that this is a short-sighted approach. It may in any case be overtaken by events, when the Government spells out what the new City regulatory bodies should be doing in its Financial Services Bill—later this year.

Punjab votes for moderation

MR RAJIV GANDHI appears to have the politician's essential, if intangible, gift of being lucky, which really means an ability to do the right thing at the right moment, and a measured degree of boldness. His luck, thus defined, held in the Punjab state election which ended in a sweeping victory for the Akali Dal, the party of moderate Sikhs.

Whether the Indian Prime Minister, as has been suggested, actually wanted the Akali Dal to defeat his own party, the Congress (I), is really secondary. What does matter is that the election created a basis for a lasting accommodation between the Punjab and the central government, and for ending two years of direct rule of the state from Delhi.

Grievances

The Akali Dal demonstrated its readiness for an accommodation with Delhi in July when it reached an agreement with Mr Gandhi intended to remedy Sikh grievances. The agreement was also an earnest of Mr Gandhi's readiness to seek compromises.

That is of the greatest importance. A country as big and as diverse as India cannot be held together by democratic means without a measure of devolution. Mr Gandhi has shown that he knows this, not only in his dealings with the Punjab, but also with other troubled regions. It sets him well apart from his mother who had little patience with dissenting regions. Her fear that an ineffective central power might eventually have the country break up into its constituent parts, was not baseless. It will be up to her son to find the correct balance between pliability and firmness which alone can solve many regional problems of India.

So much for the positive side of events in the Punjab. Several grave questions, however, remain. Only statesmanship of a high order on Mr Gandhi's part, and on that of the Akali Dal leadership, can solve them. The power of the terrorists to create mischief persists, even

though the popular mood among the Sikh population, especially in the villages, appears to have turned against them. A good turn-out at the elections demonstrated the numerical weakness of the extremists whose leaders had called for a boycott of the polls.

Akali Dal, the winner, has yet to demonstrate its cohesion. In the past it has often been rent by divisions and factionalism. It is to be hoped that the chance to exercise power in the Punjab will help to cure that propensity.

The party also has a record of ineffectuality which it must overcome if it is to give the necessary leadership in the state. The trade union determination will be needed. Given the murderous record of the Sikh extremists a great deal of personal courage will have to be summoned.

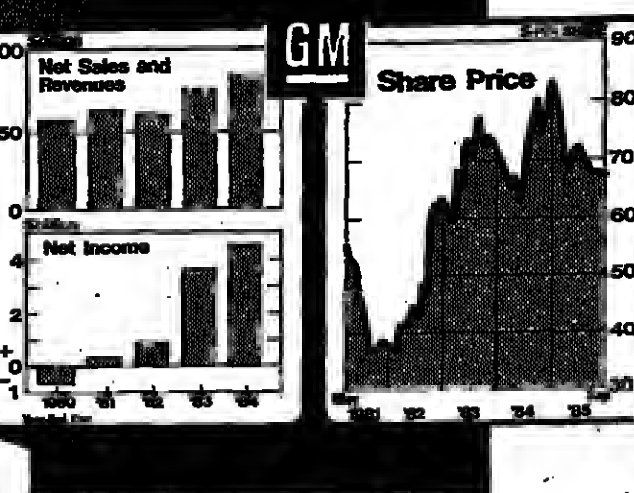
Even the pact reached in July between Mr Gandhi and the Akali Dal requires much fleshing out if it is to serve as the basis for a stable relationship with Delhi. Disputes with neighbouring Indian states about the use of river waters—a matter of crucial importance in India—and about borders were left open. So was the one question of greater measure of political devolution. Extremists have plenty of opportunity, therefore, to fish in troubled waters. If things go badly, without firm political leadership in the Sikh community, the minority problem will fester on with occasional outbreaks of sickening terrorism. The consequences would be dire not only for the Punjab but also for India's Federal cohesion.

But if the Akali Dal lives up to the hopes reposed in it and a constructive dialogue takes place with Mr Gandhi, India will have taken a great stride forward. It would enable Mr Gandhi to take the wind out of the sails of extremists who are unwilling to yield any of Delhi's central power or the power of the Congress (I). A precedent would have been set for reducing, and eventually eliminating, the communal strife that has cost India dear.

GENERAL MOTORS RE-ORGANISATION

Mr Smith answers his critics

By Kenneth Gooding, Motor Industry Correspondent



ROGER SMITH, the man responsible for the biggest upheaval at General Motors in its 75-year history, is a short, rather rotund individual. When he speaks it is with a thin, slightly wheezy voice. Like many other executives within GM he exudes a folksy charm rather than dynamism.

In his suite of offices on the 14th floor of GM's headquarters building in Detroit—relatively modest for a \$1.5m-a-year executive—he is relaxed and affable and can still show intense pleasure at the sight of a plate-full of Pecan-nut cakes supplied by the company canteen.

Before Mr Smith took over as chairman of GM in 1981 it had not made a substantial acquisition for 30 years. Neither had it made any major changes to its management structure, put together in the 1920s by Al Sloan, who presided over the group for 36 years.

All that has changed in the past 24 months. GM, already the world's largest automotive group, has made two massive acquisitions: \$2.5bn for Electronic Data Systems, the Dallas-based computer systems group, and \$5bn for Hughes Aircraft, one of the major U.S. defence contractors. The latter number one in defence electronics. There has also been a plethora of smaller deals.

As a result, GM has emerged (in turnover terms) as the largest industrial group in the world. Previously it was in second place behind Exxon.

The two acquisitions have put Smith within \$11bn of his target of taking GM to \$100bn of annual sales by 1990 and achieved five years ahead of time his aim of having 10 per cent of group sales from non-automotive operations.

The group is also going through a massive reorganisation of its car business which Sloan put into place. It is being ripped apart and reassembled into a structure intended to make GM more responsive to fast-moving trends in the market place.

So much has happened in such a short space of time that doubts about GM's ability to cope are beginning to emerge. Earnings reported so far in 1985 have fallen short of last year's record level. GM has not performed as well on Wall Street as other automotive groups.

Ann Knight, a vice president at Paine Webber, explains: "GM's prospects are now much more difficult to assess. It has turned into something of a conglomerate. The problem is that so many of its executives cannot keep up. They mouth all the right words but they don't understand what those words mean."

Roger Smith will have no truck with Wall Street's short-term thinking. "We tried to tell people last year that we were not going to have improved earnings because we were

simply pouring money into new plants and start-ups and what we call front loading—in other words, doing our engineering work earlier than we would normally in the model development cycle because it pays big dividends.

"We are carefully watching the balance of current income against what we can afford to invest for the future but we are taking on an awful lot at this time: the reorganisation, the tremendous plant investments and start-up for those plants, the front loading. But once we are through that we will have something behind us that we will have forever."

Mr Smith admits that the time has probably come for a pause in the acquisition programme. "I think we've reached what you might call the digestive stage right now. If, for example, another aerospace company came in the door right now, I think we would say: 'Please wait, we haven't even finished Hughes yet.'"

Discussions with other companies about potential deals continue, however. "We at GM don't know everything," he says. "I don't see what harm there can be—and I can see great gain—in talking to people to find out what's going on and what we could do."

GM's newfound predatory instinct sprang from a change of attitude by the U.S. anti-trust authorities whose rules reach out beyond national boundaries and can snare any U.S. company involved in deals anywhere in the world. For decades GM, taking in the Chevrolet, Buick, Pontiac, Oldsmobile and Cadillac car brands, lived in fear that the anti-trust people might pounce and insist that the empire be split up into some of its original components.

But once the authorities permitted the arrangement between Toyota, largest of the

Japanese car groups, and GM for a joint venture in California—albeit with some restrictions—it became obvious that GM had nothing to fear if it attempted to grow by acquisition rather than simply organically.

GM's critics maintain that the group has paid well over the odds for both Hughes and EDS and some other purchases.

Mr Smith rebuts that idea. Like an old-style wheeler-dealer he explains: "How much did I pay for EDS? I'm holding in the treasury right now close to 30m shares of EDS. I paid

\$40 each. Now let me give you some rough numbers. Half the shares I got for EDS are in the Treasury now, roughly speaking, and the value of EDS has doubled. How much did I pay for EDS? I paid nothing for it, right?"

Would it not have been cheaper for GM to develop its own expertise, hire more people, train them, take out patents and so on?

Smith replies: "As a matter of fact we did consider that if we could not get EDS or a company like EDS we would go to Iowa and buy a defunct college and institute an enormous training programme to develop the skill. EDS has put 6,000 people onto the job it is doing for GM. Where would we find that number of people?"

GM is probably second only to the U.S. Government in the number of computers and systems it uses to run the business. EDS has the expertise to organise things so

that all GM's computer systems can talk to one another.

GM's health care coverage—five costs over \$20m a year and was likely to double within five years—is another area where EDS has extraordinary expertise and is producing immediate benefits.

As for Hughes, Smith says it can bring to GM systems engineering expertise of the kind that enabled Hughes to contribute towards putting a man on the moon.

In the whole history—100 years—of the automobile we

(computer-aided design, computer-aided manufacturing) for example," says Mr Smith.

"And one of the great opportunities for EDS is overseas."

The Hughes and EDS management teams will be allowed to get on with the job without too much GM intervention. "One of the most important elements in any decision we make to acquire a company is that it can get on with capable management. We're not looking to bail out companies in trouble—we don't buy junk."

He reconsiders that statement. "Of course, I'd be more willing to consider taking on a company in difficulty if it was in the automotive field. What I'm saying is that GM does not have the Hughes expertise or the EDS expertise and that's why we went out to get 'em."

Does GM's apparent preoccupation with diversification suggest it is losing faith in the automotive business? For example, by 1990, Japanese companies will have the capacity to assemble 1.5m cars a year on American soil and seem to have no intention of cutting back imports. GM, as car market leader with around 44 per cent, seems bound to suffer.

Not so says Mr Smith. All the money and effort going into speeding up the introduction of new products is designed to make sure that GM holds its position in the car market.

Then there is the \$5bn being invested in the Saturn project which, although it will result in a small car, is intended to provide GM with answers about the way cars of all kinds can be built profitably in the U.S. and eliminate the Japanese cost advantage.

Roger Smith does not subscribe to the view that if Saturn and similar projects from Ford and Chrysler succeed, the Japanese will simply move up-

He admits it is probably time for a pause in the acquisition programme

have never done a good systems job. We have had to rely on the deliver.

"I'm convinced that a lot of the advancement in automobiles in the next ten, 15 years is going to be through electronics. We're only at the very beginning of the age of microprocessors, they're in the Model T stage."

Mr Smith insists the new systems will not necessarily take the enjoyment out of driving for the enthusiasts. "Those are the people who will love the new anti-lock brakes. They will love the collision avoidance devices that will tell you, when you're backing up, the distance to the nearest object."

Of course, both Hughes and EDS will continue to serve customers outside GM and to grow in their own ways. "I think the EDS growth may come more through Hughes and EDS working together. There are still tremendous underdeveloped areas of expertise on Cadcam

have never done a good systems job. We have had to rely on the deliver.

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From GEC to Cambridge

For the second time in less than a week comes news of a life-long GEC man in the top executive ranks departing to run another British company.

Roy Cottrell's face is not too well known in British electrical engineering circles these days. Since 1960 he has had a series of overseas jobs for GEC which have taken him round the world. For the past 11 years he has been in Australia managing GEC's business there.

Today Cottrell is back behind a desk in England. He has been the new group managing director for Cambridge Instrument Company and takes over responsibility for the day-to-day running of the company from Mr Terence Gooding, who continues as executive chairman.

In a surprise appointment last week, Arthur Walsh, the head of GEC's Australian division, accepted the chief executive slot at STC.

Cottrell, who is 49, says he was born with an electrical screw-driver in his hand. His father ran an electrical contracting business in Wimbledon. After Kings College School, Wimbledon, and a Higher National Certificate in Electrical Engineering at the Kingston Institute of Technology, he trained as an engineer-manager with GEC.

He was sent to GEC West Indies in 1960, and moved on to the management ladder in foreign postings, working in Burma, India, Pakistan, New Zealand, and South Africa, before being named managing director and chief executive of GEC Australia.

Cottrell's immediate job will be to help bring Cambridge Instruments to market. Plans for a stock exchange listing last July had to be shelved because of crumbling prices in the electronics sector. He says the new target date for a listing is now "sometime next year."

Cottrell was approached by intermediaries in Australia

Men and Matters

about the Cambridge job. He said it was the international flavour of the company with its many overseas subsidiaries that appealed to him, and helped persuade him to move.

And how did GEC react to his resignation? He laughs: "We parted on good terms and the best wishes of senior colleagues."

He is primarily concerned to raise funds for charity but he also nurtures hopes that while he is in London he can "educate the British to the great potential of Western Australia and to the enormous interest in the America's Cup." (to be sailed at Fremantle in February, 1987).

He is also looking for some publicity for his fine wines among discerning European drinkers. Soundings in the London wine trade suggest a retail price around £20 a bottle for Leewards' white Margaret River Chardonnay. That is an ambitious level for a wine still little-known among European drinkers.

Horgan's privately-held Australian master company is Barrack House. It will be much more widely-known if his most ambitious gamble comes off. He is backing the Caru learn burn car engine technology in the

hope it will be accepted by the world's major car makers as the way to combine harsher environmental standards with high fuel efficiency.

He has invested A\$2m in the idea since its inventor, Bob Lampard, came to him 12 years ago.

Now the project has moved from Australia to the U.S. where a small development plant is being set up. Four big motor and components groups in the U.S. and Europe have signed agreements with Morgan but he is not saying who they are.

What's new Pushy-Cat?

A reader, Peter Roberson, of Norfolk, offers his humble apologies to Edward Lear and sends me these verses, which he calls The Owl and the Pushy-Cat:

The Owl and the Pushy-cat sent to see

How to raise a big floating rate note.

They said "It preserves the official reserves

We shall need for a more managed float."

For the Owl had heard from the Baker man

They had had a complete rethink.

They'd planned a concert, concerted a plan

To get the dollar to sink, To sink.

To get the dollar to sink, "Now you know," said the cat. "When I proposed that

They did not seem to much care.

Their own PSBR has expanded too far

And protection is causing a scare.

Now some may think we should no longer shrink

from the pound's fall.

What does matters is that From the hand of EMS girl. Where the currencies ride on the deutchmark tide And the pound—it will find a new worth.

New worth. And the pound—it will find a new worth. The market went reeling, the dollar enfolding.

But just for the space of a day.

Then they all got confused and felt battered and bruised

And dealers—once more—earned their pay.

Controlling money is always funny.

Aggregates can't be relied on. And its tempting fates with free floating rates.

For they're always such fun to ride on.

Ride on! For they're always such fun to ride on.

Ride on!

For they're always such fun to ride on.

Ride on!

For they're always such fun to ride on.

Ride on!

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Ride on!

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IN THE East-West diplomacy of the past 40 years, there is one iron rule which has never been broken: the Russians do not make substantive proposals which are intended to be the basis of serious negotiation and agreement.

They make specious rhetorical gestures, which sound good but mean little or nothing, or they make proposals which they know are non-negotiable. If serious negotiations take place, it is invariably on a Western, usually American, initiative. This 40-year-old rule now must be broken by Mr Mikhail Gorbachev, the new Soviet leader.

For some months the Russians have been dropping the most provocative hints that the act that they are about to perform on the stage of the Arms Control Theatre, will be daring, exciting and seductive, and with every week the pre-performance type becomes more breathless. Not long ago, Soviet "sources" were insinuating the idea of a 30 per cent cut in nuclear weapons; last week other, equally unnamed, Soviet "sources" raised the ante to 40 per cent. The tension is becoming quite palpable: Just How Far Will They Go?

Of course, the live performance has not started yet. The drumming, however, is in full swing. It is clear that this ostensibly alluring strip-tease artist is just the good old Politburo with sequins and feathers, all talk and no action. On the historical record, that is more or less what one would expect.

But this time, the advance publicity has been so titillating and so insistent that it has become impossible to believe that there will be no follow-through. If Mr Gorbachev were now to fall to come up with an arms control proposal which on examination revealed the start of serious bargaining, he would not merely alienate those in Europe and the U.S. who believe that a deal is both urgent and achievable; he would also undermine the credibility in any future performance in the Arms Control Theatre.

Since Mr Gorbachev can see this as clearly as anyone else, he must now, perhaps this very week follow up his vamping act with a serious proposal to the Americans in Geneva. But if he does not, why the fan dance? Why didn't he skip all the nods and winks, and get down to business in the moment of decision?

Two possible explanations suggest themselves. First, he may have wanted to stir up discussion in the West, to get an idea of the size and strength of the potential constituency which would favour a deal trading cuts in nuclear weapons against

Foreign Affairs: Arms Control

A vamp act in sequins and a feather boa

By Ian Davidson

curbs on President Reagan's "Star Wars" Strategic Defence Initiative. He knew there was no point asking President Reagan directly, since he has on many occasions rejected the idea of such a trade; the question was, and is, whether he could be compelled to entertain it by an alliance of other political forces, in the U.S. and in Europe.

Second, this process of testing audience reaction in the West may also have been necessary for the mobilisation of political support inside the Soviet Union for the framing of a concrete offer. The armed forces and other advocates of a strong Russia may need to be persuaded that the advantages of a dramatic arms cut would be greater than the risks.

So far as it is possible to judge from the nods and winks, Mr Gorbachev seems to have edged towards the formulation of a package whose component elements might plausibly be taken to be a starting point for serious negotiation. He appears to have abandoned his initial demand, that President Reagan must simply accept everything he ever said about the Strategic Defence Initiative; instead, he is talking about restrictions on testing of "Star Wars" technologies.

He appears more prepared to meet American anxieties over the threat posed by multiple warheads on Soviet land-based missiles, by insinuating that negotiated arms cuts would be measured in warheads, not just in launchers. And if the most

recent Soviet hints are confirmed in practice, a 40 per cent reduction in strategic nuclear weapons would not merely be a dramatic offer in itself, it would have the additional merit of exceeding the one-third cut proposed by the U.S.; if Mr Gorbachev wants to enlist the applause of the Western arms control lobby, he must be able to represent his offer as being better than the Americans'.

So is the scene set for a breakthrough, for the first-ever achievement of nuclear disarmament? Nothing could be less certain. Mr Edward Shevardnadze, the new Soviet Foreign Minister, may have been quite sincere when he told the UN General Assembly last week that there was no "fated clash" between the national interests of the U.S. and the Soviet Union, and that Moscow wanted to build "normal, stable relations" with Washington; but there will be plenty of people in Ronald Reagan's America, and no doubt in Mikhail Gorbachev's Russia as well, who will decline to take either of these propositions on trust.

In any case, the Soviet proposals may prove, when or if they are tabled, to be a good deal less alluring on close examination than the advance billing has implied; that may be part of the purpose of the wind-up campaign, to distract popular attention from the fine print. Moreover, we should assume that they will contain a couple of stings in the tail which will

divide the governments of Western Europe. Distracting Western voters will not be difficult. A 40 per cent cut in strategic nuclear warheads sounds dramatic, and it might even be dramatic. But with the strategic arsenals of the two superpowers at their current enormous levels, even a 40 per cent cut would still leave both with far more nuclear weapons than is required for stable deterrence.

Indeed, it is arguable that, of all the characteristics of a strategic nuclear force, the simple measurement of the number of weapons is the least important, at any rate until one gets down to very small figures indeed. The most important characteristics are, first, that the weapons should be invulnerable to attack—hence the American fuss about Soviet SS-18s and the basing mode of the MX; second, that they should be capable of reaching their targets—hence the Russian fuss about SDI; and third, that the government should have an effective early-warning and secure command-and-control system. Last comes the numbers of weapons.

The political and symbolic value of a 40 per cent cut in nuclear weapons would, of course, be immense, but it could not alter this order of priorities. Its military value would depend on where the cuts were made; if they bore most heavily on multiple warheads, they would improve strategic stability by reducing the theoretical temptation of a

pre-emptive strike against the adversary's weapons. But if the superpowers still retained 50,000 strategic warheads, politicians and strategists would still be free to indulge in fantastic explorations of schemes for prolonged and controlled war-fighting, whose public ventilation under the Reagan administration has done so much to inflame popular anxiety.

They would only be forced to abandon these fantasies if the numbers were reduced to much lower levels still. Mr Robert McNamara, former U.S. Defence Secretary, is among those who argue that nuclear weapons cannot be used like other weapons, and can only serve as a deterrent against attack by other nuclear weapons. For this purpose, such smaller numbers would be sufficient; he recommends a cut of 50 per cent.

But in any case, the critical figure in any serious arms deal will not be the number of weapons, but the number of years for which the agreement would run. The two Strategic Arms Limitation Treaties (Salt) of the 1970s are criticised for not having halted the arms race; but this was almost inevitable with agreements which were only intended to last for five and six years respectively, periods which are well inside the gestation of any significant weapons system.

Real arms control will require much longer-lasting agreements, precisely in order to constrain future developments

and to give both sides the reassurance of greater predictability. The merit of deep cuts would not be that 6,000 warheads is somehow safer than 10,000, but that force re-structuring (to reduce multi-warhead missiles, for example), would take a long time to implement—perhaps as long as ten years—and the new, lower levels would need to remain in force for several years thereafter. If the main factor driving the arms race is fear of what the adversary may be planning to be able to do tomorrow, rather than what he can do today, a long-lasting arms control deal may be the only way to alleviate it.

And the sting in the tail? Mr Gorbachev may be interested in mutual stability and security, but he must also be interested in improving Soviet national advantage as well. If he does offer deep cuts in strategic weapons, he will want to be paid twice—probably three times. First, with curbs on "Star Wars"; second, with a one-sided deal governing U.S. missiles in Europe, which will worry the German and British governments, but delight the anti-nuclear movement; third, with effective limits on British and French systems, which will worry Mrs Thatcher and Francois Mitterrand.

Still, these worries are for the moment only hypothetical and conditional. Mikhail Gorbachev's strip-tease has not yet begun, and we still do not have the answer to the first and most important question: How Far Will He Go?



The first column for 1980 assumes U.S. and Soviet forces are constrained by Salt 2; the second assumes aggressive modernisation without Salt constraints.

Lombard

Market view of next election

By Samuel Brittan

THE CASE for taking seriously the views of the future embedded in market prices is not that these views are right, but that it is difficult to do better. Or to put the point another way: people are putting their money where their mouths are in forward-looking market prices in a way which does not apply to econometric forecasts or the armchair predictions of wise men.

Similarly there is a market in political futures, which is a few steps ahead of the poll data. This is provided by the odds that leading bookmakers put on the result of the next British election. They are better than the public opinion polls because they incorporate forecasts of how such polls are likely to move over the next two or three years and how this opinion will be translated into parliamentary seats under the bizarre British electoral system. Unfortunately, the only odds I could obtain last Friday relate to seats, not to governments. They tend to show the Conservatives catching up enough to gain the largest number of seats. But the odds suggest either that the opinion is not held very strongly or that the Conservative lead is likely to be modest.

Ladbroke's, for instance, are quoting odds on the Conservatives having the largest number of seats: Labour is quoted 5 to 4 against and the Alliance 5 to 1. William Hill gives odds of 11 to 8 in favour of the Conservatives gaining most seats (11 to 5 against Labour, with the odds of 6 to 1 against the Alliance).

The markets are still what the City would call "thin." The weight of money behind Ladbroke's bet is about £75,000 compared with £1m expected by election day in 1987 or 1988. One single large bet the weekend before last was sufficient to push the Conservatives from slightly behind to the favourite position.

Although not as favourable to Labour as the opinion polls, the bookmakers' odds are far from discouraging to it, given that the party had only 209 seats in 1983 compared with the Tories' 397 and 43 for the Alliance. There is much to be said for these odds not tell us. Although they

predict that the Alliance will not overtake either of the large parties, they leave all to play for in Alliance seats. They are consistent with the Alliance gaining a large multiple of their previous 23 seats or making no breakthrough at all.

But the most important gap in the bookmakers' market is the lack of a book on whether the leading party will have an absolute majority or not. Mr Ron Pollard of Ladbroke's, who is the doyen of this type of betting, believes however that if there were such a book the odds would be five to two in favour of a hung Parliament. That is, no party would have a clear win.

If Dr David Owen did not exist, it would be possible to guess the next stages. Labour would try to force an early second election and would succeed because the Liberal and Social Democrat desire never to be seen to be aiding the Tories.

Dr Owen could, however, just have the ruthlessness to stop Labour drifting into power in this way. Suppose then we had some sort of Tory-Liberal-SDP coalition, what are the financial implications? According to Prof Patrick Minford in the latest *Liverpool Economic Bulletin*, this is one reason why medium and long-term rates of interest remain stuck in the 10 to 11 per cent band.

He suggests that the term structure of rates, "although it does not imply a strong resurgence of inflationary expectations does mean that interest rates, particularly medium dated, will remain sticky downwards."

Of course political risk is not the only factor at work. Uncertainty about the Government's policies here and now, such as those stemming from the battle on public sector pay and doubts about taxes, may also be undermining the credibility of its commitment to reduce inflation to 3 per cent and below.

It would be a bold man who could sort out the relative weight of these different forces; and direct evidence from the bookmakers is a useful supplement to what the financial markets are saying.

UK university admissions

From Mr K. R. Wade
Sir,—The article on UK University admissions by Jonathan Steinberg (September 23) rightly drew attention to the shortcomings of tertiary education in this country. A major part of the problem, however, and an indictment of our education system in general, is that we neglect to teach people how to use beneficially whatever skill and knowledge they may have acquired.

Use of currency options

From the Joint Managing Director, Butler Treasury Services

Sir,—I am concerned that some of the comments in the *Lex Column* of September 23 about Flex's use of currency options to hedge overseas trading earnings might have the unfortunate consequence of dissuading other companies from the prudent use of options to cover their foreign currency exposure. In particular, I feel that too clear a distinction was drawn between transaction and translation exposure. The limitations of historical cost accounts in presenting the economic performance of an enterprise in an inflationary climate are well-known and the translation impact of currency movements is yet another problem.

The point is that, like it or not, companies with overseas assets (and liabilities) are exposed to the economic impact of exchange rate vagaries however their accounts might be presented. Those which are averse normally seek to achieve balance sheet neutrality by matching foreign currency assets with equivalent liabilities, but might still be exposed to the stream of earnings those assets are expected to produce. After all, earnings represent the net effect of transactions and at some stage are expected to be turned into cash. It does not necessarily follow that all companies adopt a policy of re-investing such resources in the overseas investments which produced them. Some may be required for repatriation to meet home expenses or to cover dividends or for investment elsewhere. If they are considered vulnerable to exchange rate movements, surely it is prudent to hedge.

Contrary to the impression given by *Lex*, options remove

Letters to the Editor

frightening, lack of commercial nous in many would-be entrepreneurs (and in more than a few established companies). These are all symptomatic of an education system which sees the acquisition of knowledge as an end in itself and which singularly fails to impart the necessary skills and motivation to put it to good use.

A necessarily bureaucratic system cannot hope to provide vocational training (for a specific job) which matches in quality and quantity the often rapidly changing needs of a

modern industrial society. What it can and must do is to provide the ability to acquire specialised knowledge (literacy, numeracy, comprehension); the skills to use it (objectivity, creative thinking); and the motivation to do so. Fail to provide any one and you fail totally.

Primary, secondary, and tertiary levels should all include a significant amount of training in the application of knowledge in achieving set objectives. The objectives of every aspect of education (presumably a purposeful endeavour) should be clearly identified to all concerned, especially the pupils, who should be encouraged to question the relevance of whatever it is they are doing.

Tertiary training should in many ways resemble management courses, including subjects such as sales and marketing, organisation, and finance.

Specific vocational training, especially in technology-based subjects, would be better provided in the form of special short courses, tailored much more closely to the needs of local industry and commerce, with much more flexible entry requirements.

In general, successful men and women from all walks of life should be encouraged to spend part of their time teaching at all levels of education. They can provide knowledge, experience, and above all inspiration to a generation which will need all it can get.

K. R. Wade
Jasmine Cottage,
Riverside Road West,
Newton Favers,
South Devon.

U.S. example in higher education

From Mr James Cooper

Sir,—May I support Jonathan Steinberg's plea for change in our educational system (UK University admission, September 23), possibly using the United States as an illustration.

Thanks to the early decision process in most American colleges and universities you can know by the New Year of the result of your application, leaving time to apply elsewhere if disappointed.

Having had all my four children go through UK comprehensive schools and then to American universities I am not convinced that the UK produces a superior product at an equivalent price. All my children

obtained 10 O levels and three A levels, but none found his or her American academic career easy, even in maths for the daughter who obtained an A grade in English and Maths A levels.

The numbers being educated at advanced levels speak for themselves, particularly in technology. I suggest that neither in quality or quantity are we outstanding. Even worse is our performance in manipulative skills training. The numbers taking apprenticeships in engineering are at best only one-third of 20 years ago. There are increasingly shortages of skilled people even in areas of high unemployment. What difference is there between a citizen of this country and one from the Third World?

James Cooper
Managing Director
Wickham Engineering Co.,
Ware, Herts.

A consensus on non-proliferation

From Dr J. K. Leggett

Sir,—You point out in your editorial of September 26 that "... the view that the U.S. does not want to call a halt to testing until it has completed tests on its next generation of nuclear weapons..." appears to contain more than a grain of truth. True, but you fail to mention that the UK is in the same boat: the Trident warheads, designed by Aldermaston and built at Burghfield, must undergo a series of tests in Nevada.

You mention that "... the inadequacy of verification technology..." is advanced by the U.S. and UK as a reason for not negotiating the comprehensive test ban treaty which the Soviet Union and the non-nuclear signatories of the Non-Proliferation Treaty are so keen on.

You correctly comment that this view attracted criticism from scientific grounds from several prominent non-nuclear Western nations at the NPT Review Conference in Geneva last week. Small wonder: most scientists concerned with verification technology view the U.S. and UK postulations as an excuse, not a reason.

Accordingly, your comment on the final resolution of the NPT Review Conference is totally misleading. You say that "... the wording of the final document was sufficiently judged to let the Western nuclear powers off the hook on the CTBT..." In fact the final communiqué instructed the nuclear powers to begin CTBT negotiations without delay. Were this to happen, the UK Government would have to come to the table hopelessly compromised over Trident.

J. K. Leggett
Imperial College of Science and Technology,
SW7 2BZ.

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1977	27	81	1978	27	81
1979	28	82	1979	28	82

over the last 10 years.

100

1977	27	81	1978	27	81
1979	28	82	1979	28	82

icipation, in particular.

1977	27	81	1978	27	81
1979	28	82	1979	28	82

Algeria	4	16	25	34	43	52	61	70	79	88	97	106	115	124	133	142	151	160	169	178	187	196	205	214	223	232	241	250	259	268	277	286	295	304	313	322	331	340	349	358	367	376	385	394	403	412	421	430	439	448	457	466	475	484	493	502	511	520	529	538	547	556	565	574	583	592	601	610	619	628	637	646	655	664	673	682	691	700	709	718	727	736	745	754	763	772	781	790	799	808	817	826	835	844	853	862	871	880	889	898	907	916	925	934	943	952	961	970	979	988	997	1006	1015	1024	1033	1042	1051	1060	1069	1078	1087	1096	1105	1114	1123	1132	1141	1150	1159	1168	1177	1186	1195	1204	1213	1222	1231	1240	1249	1258	1267	1276	1285	1294	1303	1312	1321	1330	1339	1348	1357	1366	1375	1384	1393	1402	1411	1420	1429	1438	1447	1456	1465	1474	1483	1492	1501	1510	1519	1528	1537	1546	1555	1564	1573	1582	1591	1600	1609	1618	1627	1636	1645	1654	1663	1672	1681	1690	1699	1708	1717	1726	1735	1744	1753	1762	1771	1780	1789	1798	1807	1816	1825	1834	1843	1852	1861	1870	1879	1888	1897	1906	1915	1924	1933	1942	1951	1960	1969	1978	1987	1996	2005	2014	2023	2032	2041	2050	2059	2068	2077	2086	2095	2104	2113	2122	2131	2140	2149	2158	2167	2176	2185	2194	2203	2212	2221	2230	2239	2248	2257	2266	2275	2284	2293	2302	2311	2320	2329	2338	2347	2356	2365	2374	2383	2392	2401	2410	2419	2428	2437	2446	2455	2464	2473	2482	2491	2500	2509	2518	2527	2536	2545	2554	2563	2572	2581	2590	2599	2608	2617	2626	2635	2644	2653	2662	2671	2680	2689	2698	2707	2716	2725	2734	2743	2752	2761	2770	2779	2788	2797	2806	2815	2824	2833	2842	2851	2860	2869	2878	2887	2896	2905	2914	2923	2932	2941	2950	2959	2968	2977	2986	2995	3004	3013	3022	3031	3040	3049	3058	3067	3076	3085	3094	3103	3112	3121	3130	3139	3148	3157	3166	3175	3184	3193	3202	3211	3220	3229	3238	3247	3256	3265	3274	3283	3292	3301	3310	3319	3328	3337	3346	3355	3364	3373	3382	3391	3400	3409	3418	3427	3436	3445	3454	3463	3472	3481	3490	3500	3509	3518	3527	3536	3545	3554	3563	3572	3581	3590	3600	3609	3618	3627	3636	3645	3654	3663	3672	3681	3690	3700	3709	3718	3727	3736	3745	3754	3763	3772	3781	3790	3800	3809	3818	3827	3836	3845	3854	3863	3872	3881	3890	3900	3909	3918	3927	3936	3945	3954	3963	3972	3981	3990	4000	4009	4018	4027	4036	4045	4054	4063	4072	4081	4090	4100	4109	4118	4127	4136	4145	4154	4163	4172	4181	4190	4200	4209
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the 1990s, the number of people in the world who are illiterate has increased from 1.2 billion to 1.5 billion. The number of illiterate people in the world is projected to reach 1.7 billion by the year 2015. The number of illiterate people in the world is projected to reach 1.7 billion by the year 2015.

everything he said." He pointed to King Hussein's call for an international conference and Soviet participation, in particular.

FINANCIAL TIMES SURVEY

Europe's 53m office workers face unprecedented changes in their working environments as the decreasing cost of computers and the increasing cost of people tempt managements to buy more and more technology.

New emphasis on integration

By MICHAEL WILTSHIRE

DESPITE RECENT setbacks in the international computer market, the office equipment industry in Europe and the U.S. is buoyant. Suppliers in the UK's £5.5bn market—the world's second largest after the U.S.—are now more optimistic about the general business climate than they were six months ago, with more than 70 per cent reporting an increase in orders.

Among member-companies of the British Equipment Trade Association, 60 per cent have taken on more staff this year and 47 per cent of companies also report increased export sales in the last six months, although the majority of suppliers are still heavily reliant on meeting the needs of 360,000 offices in the UK market.

The office automation equipment market was booming in Europe until the end of 1984—then came the slowdown in high technology sectors. The total text processing market in Europe grew from £210m in 1980 to £3.2bn by last year—the growth rate was a ridiculous 1,400+ per cent, a recent Wharton market report said.

Lower prices were a factor in the sudden downturn in revenue, but a less obvious factor is the need for better control of organisational costs. Until computers began to be connected, with access to servers, databases, with more sophisticated applications and so on, the high growth rates will remain elusive, the report suggests.

Convergence

Users are becoming far more aware of the need for the integration of equipment, particularly with the convergence of computers and communication technology. Anyone buying pieces of the electronic jigsaw without carefully considering the future role of each item will soon regret the decision.

"Convergence has a new meaning," says Dr Nigel Horne, director of corporate development at STC and a director of ICL. "It now includes the gathering, dissemination and even interpretation of information. The consequences for suppliers and users alike are profound if they are to ensure their competitiveness for the future."

The first real change in the office world in recent years was the arrival of the calculator, which is now almost universal—it is estimated that there are 20m of them in use in the UK alone.

Then came computer terminals and word processors. They were followed in about 1980 by electronic typewriters and, most recently, by personal computers. All this has led to a dramatic turnaround since the mid-60s

OFFICE EQUIPMENT



THE FIRST typewriter to be manufactured in Britain for ten years is checked at Brother Industries' plant in Wales, where the Japanese group is investing £10m in facilities to produce 240,000 electronic daisy-wheel machines a year. Brother's AX-10 machine is being checked here by Mr Masao Kato, managing director of the UK project and Mr Malcolm Neuman, general manufacturing manager. (Typewriter market: see page 4).

when in the U.S., for example, it was claimed that equipment investment for factory workers was then ten times that of the investment for office staff. Today the gap is closing fast.

In the personal computer market, sales in Western Europe are forecast to grow five-fold by 1990, when personal systems worth more than £8bn will be sold each year, according to the latest survey by market analysts, International Data Corporation.

By the end of 1987, Olivetti estimates that four out of 10 among Europe's 53m white

collar workers will be equipped with an electronic workstation, either stand-alone or connected in a departmental or corporate system.

Despite the slowdown in high technology, the European market potential in the office automation industry is still vast when one considers that:

● Europe employs 6m typists, but only 250,000 of them as yet have a word processor. About 350,000 of these typists have a personal computer, dedicated to word processing.

● Only 3m of Europe's typists

use an electronic typewriter, the majority of which are little different in performance from the previous electro-mechanical models.

● Europe's 13m clerks are using 3m personal computers. There are about 650,000 personal computers in use on a walk-up, shared basis.

● Government departments and commercial sectors employ about 19m white collar executives in Europe, but they are still largely untouched by the developments of office automation.

About 100,000 professional workers—for example, engineers with a well-defined job functions, or actuaries in insurance companies—are now using personal computers. But line managers, and particularly those whose responsibilities are "task-driven," need access to a number of different and probably separately structured databases. They also need systems to provide the definitions of the records in the database, when it was last maintained, and how to use the packages to manipulate the information.

IN THIS SURVEY

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Small service organisations in Europe—groups such as medical and legal practices—employ about 5m professionals using around 250,000 "twilight" microcomputers which can be considered expensive hobbyist machines, but which are also used to maintain accounts and produce correspondence.

There is a large and rapidly growing market for replacement machines, in addition to the added-value server products, such as electronic mail, electronic filing, advanced printers, and so on, says Wharton.

Given this almost limitless market potential, it may therefore be a surprise to learn that according to Trade Indemnity, the UK's largest credit insurance agency, insolvencies in the automation supply field almost doubled in 1984.

Their analysis showed that some of the smaller distribution companies could not sustain the pressure of IBM and Apple's price cuts. Some of the small software suppliers found the pressure of standard packages, plus the greater purchasing power and retelling muscle of the large marketing organisations, irresistible.

Although the market looked so large and inviting, the missing elements among a lot of entrepreneurs were correct marketing and cash flow.

Electronic typewriters are a major contender to become the desk-top workstation, since the typewriter—along with the portable computer—is the most basic entry point into office automation. This is the reason there is so much market activity in this area. But in

Europe the electronic typewriter sector is "experiencing something of a watershed—sales are up and have reached a steady state where they are now selling in the numbers at which previously electro-mechanical models and manual machines were replaced in the 1970s," says Wharton.

Imports

Last year the UK imported more office typewriters from Japan than from either Germany or Italy. The EEC has taken action against what was perceived as Japanese dumping of electronic typewriters into Europe—the result, however, was that some companies stockpiled and thus distorted import figures: some increased prices in the hope of persuading the EEC that they were not dumping; and some, such as Brother (in the UK) and Canon (in France) moved more strongly towards European production.

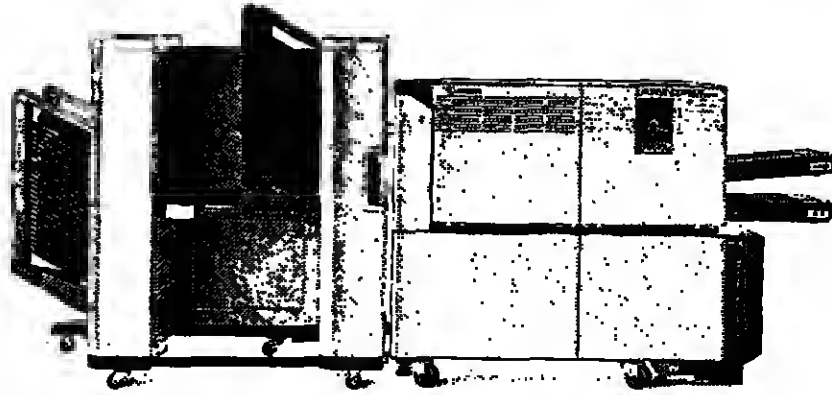
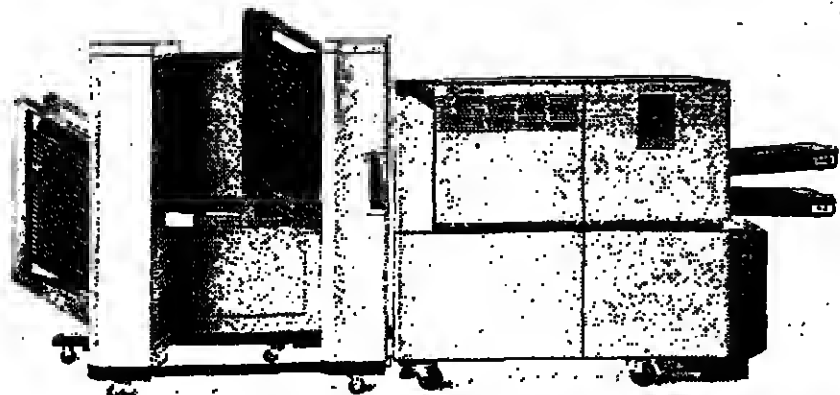
Now a new dumping row is being focused on the copier market, after complaints from the Committee of European Copier Manufacturers in the EEC. Meanwhile, a number of UK manufacturing groups are seeking to counter foreign imports. The new British Office Technology Manufacturers Alliance, for example, is urging UK office managers to buy British computers and bolster annual sales of about £1.5bn.

Integration of office systems is clearly the way ahead, with networking becoming increasingly visible in the European

CONTINUED ON PAGE 8



"This is your copier speaking."



To compare the Canon Laser System to a conventional copier is a bit like comparing Concorde to a jumbo jet.

As you can see, the Laser is a discreet modular system, not a gigantic console with a few bolt-on extras. It uses the latest digital technology to fly through your copying jobs literally at the pace of a laser.

The complete system which you see here can reach speeds of up to 180 copies a minute.

And since it has yet to take to the skies, this makes it the fastest copier on Earth.

The Laser is also the World's first intelligent copier. Its intelligence is based on the scanner's ability to convert an original into a digital electronic signal.

This signal can then be processed, stored or transmitted to the printer by cable.

The printer uses a pinpoint beam of laser light to translate the signal back into a high resolution image.

With its umbilical cable the scanner can sit above the

printer or stand up to five metres apart.

It can also control up to four printers.

This in turn makes it one of the most reliable copiers, since if one printer stops, the others aren't affected.

The Laser is also the most versatile copier yet made. It offers an impressive array of intelligent and automated features not found on conventional copiers.

It can turn white into black and black into white and identify 64 gradations of tone.

It can copy the facing pages of a book masking out unsightly gutters and black edges.

It can automatically zoom in to enlarge up to 200% and out to reduce down to 50%.

And like a word processor it can edit by framing, blanking and shifting position.

But most of the time all you need to do is position the original in the automatic feed and press the start key.

The machine then automatically selects the right size

paper, or the correct magnification and ideal exposure.

What's more, all your most frequently used copying jobs can be stored in a multimemory programme.

There are a number of Laser systems for you to choose from.

You can start with one printer and one scanner and work up to four printers and four scanners.

Tomorrow the system will play an important role in office automation as a local copier network.

It has the potential to revolutionise the office as part of a completely automated electronic publishing and filing system.

Canon have been market leaders since 1982, with one of the largest direct and dealer networks in the UK.

To help you further, we've recently set up a new company, Canon Finance Ltd.

Because a copier that's built like Concorde, is obviously going to cost a little more than the average jumbo.

Please send me full details of the Laser Copier System.
Canon (UK) Ltd., FREEPOST, Canon House, Manor Road,
Wallingford, Oxon OX10 8LR.
Or dial 100 and ask for FREEPHONE Canon (UK) Ltd.

Name _____ Position _____
Company _____
Address _____
Postcode _____ Tel No. _____

Canon

Laser Copier Systems. We'll help you look good on paper.

Office Equipment 2

Copier war intensifies as machines interface with computers

Battle for the desk-top market

Copiers
CHRIS WILSON

WITH MORE than 150 different models of photocopiers now available to buyers, the competition among suppliers is intensifying in a race to offer new features at the touch of a button.

Laser, fibre optic, digital and colour-copier technologies are transforming the once-humble copier into an information recording and distribution system, while features such as zoom enlargement and reduction, double-sided copying, colouring and automatic document feed are now commonplace.

Following its invention 30 years ago, the basic office copier seemed to be progressively overshadowed by the computer revolution which, in turn, saw the arrival of the personal computer (PC). But less noticeably, a revolution in reprographics was also going on in recent years which has now brought with it its own PC—the personal copier.

Before the advent of the microcomputer, copiers could do little more than copy, i.e. produce a reproduction of the original, with varying degrees of success. There was little else available in the way of even

basic editing functions. But, today, copiers are bristling with new facilities that allow the user to do almost anything with the original image before producing a final print.

The most elementary change that one can make to a document is the size, and a large proportion of the new copiers on the market feature changeable reproduction ratios. On the basic models there are just one or two enlargement and/or reduction modes, while for a little more money there are now several handfulls of machines with zoom lenses which in effect provide 40 or more reproduction ratios—all on one machine.

At the other end of the market, there are products such as the Canon laser copier which allows the user to stretch and squeeze images via an independent control of vertical and horizontal axes. Users can also mask parts of the original, shift certain elements, reverse images, black for white. An increasing number of machines will also produce copies in any colour desired: black, blue, brown, red, green and even sepia.

The rush to incorporate such new facilities, as well as labour-saving devices such as sorters, document feeders, automatic paper selection systems and auto-duplexing (double-sided copying), has brought with it a new intensity to the market-place.

In its mildest form, this

manifests itself in the sheer number of claims by the manufacturers to have created a "first." Canon's laser copier, for instance, was "the first commercially available digital copier on the British market." Mita recently claimed "the first desk-top zoom copier with three paper cassettes." Lion launched a new Toshiba machine, said to be "the world's first digital full-colour desk-top copier" and Ricoh says that its new colour 5000 machine is "the world's first full-colour plain paper copier to offer reduction and enlargement."

Imports

At its most intense, however, it is an international copier war with the most recent battle being the complaint by European copier manufacturers that Japanese producers are dumping their products within the EEC.

Ironically, four of the five complainants source some of their products from Japan: Rank Xerox through its Fuji-Xerox joint-venture, Oca and Develop from Mita, and Olivetti from both Konishiroku and Toshiba. (The fifth complainant, by the way, is not well known in the UK: it is a French company called Tetras.)

This sourcing is, of course, nothing to worry about; it merely serves to highlight the fact that an estimated 85 per cent of copiers sold in Europe are of Japanese origin. Several other top copier suppliers also brand Japanese-built machines: Infotec's and Nashua's products are made by Ricoh; Kodak and Agfa-Gevaert have recently signed agreements to brand Canon machines; and Mita supplies a whole host of European copier companies.

Clearly, then, if dumping is deemed, by the European Commission, to be taking place, the levying of import duties on Japanese copiers could have a telling effect on the sector, perhaps raising prices to the end-user by as much as 10 per cent. The outcome is unlikely to be known, however, until late next year.

Meanwhile, the market may see the results of other actions which are currently being pursued in British courts to call a halt to the sharp practices of some copier dealers and one or two suppliers. Indeed, malpractice can become one of the biggest problems facing the

unsuspecting buyer today. There is no longer a great deal of difference between many makes of machine: the difference is in the supplier.

There are several factors about which the user should be wary when buying a new copier. Cost-per-copy is a particularly important point: some suppliers quote incredibly low copy-costs which they later prove unable to maintain. Others are eager to sell obsolete equipment, even at higher prices than more modern equivalents. And the last thing that users want is to choose a dealer who is likely to go out of business at the end of the month.

Although it would appear easy to become entangled in a bad deal, it should not prove too difficult to find a good supplier with adequate back-up facilities; rest assured, there are plenty of good dealers about. Once a prospective buyer has found the right supplier, the choice of machine is then not too difficult. Remember that the best dealers are not so much high pressure salesmen as consultants: they assist users to choose the right machine, rather than merely "sell a copier."

Advances

Obviously, buyers should be careful not to be tempted by all the "bells and whistles" found on many of today's machines. Buyers should carefully define their needs before selecting a copier: do not buy a fully-featured machine and then try to find uses for its many functions. Special features are likely to interest certain users more than others. The most sophisticated image-manipulation techniques, for instance, are likely to find the widest appeal in creative departments, such as advertising agencies.

In the past five years photocopier developments have come a long way, but in the next five years they will advance even faster. At one end of the scale, the market will see many of the recently developed features working their way down the market to desk-top and even personal models, while at the other end of the scale we are likely to see more as yet unthought-of developments to tempt the buyer.

Visitors to the latest Hannover Fair will have had a better idea than most of what to expect in the future, although the less-travelled British buyer may

have deduced plenty of details of the recent Copiers '85 exhibition. At this London show, Mita gave a preview of a machine offering editing functions on a grid-type keypad, while Panasonic showed an editing add-on for its own copiers.

A key indicator of things to come, however, must surely be Canon's laser copier. Apart from its impressive array of editing functions, this machine is designed to interface with computer equipment. Indeed, the copier is already communicating with such systems in Japan, a facility which is likely to become available in Britain next year.

Without a doubt, the "intelligent copier" is already here.



Mr. G. P. Barua, director of the National Business Equipment Survey in the UK. He has been conducting surveys of the copier market for 14 years and predicts that suppliers will shortly be turning their attention to broadening their product lines.

"Whereas American manufacturers concentrated almost exclusively on the high volume end of the market, we've already seen them attacking the low volume market place."

"Now we are about to see Japanese manufacturers going for high volume copiers, which will bring them into more direct competition with the Americans. However, in order to succeed, Japanese suppliers will have to think hard about their distribution policies, which have been heavily dealer-orientated."

Desktop Copiers

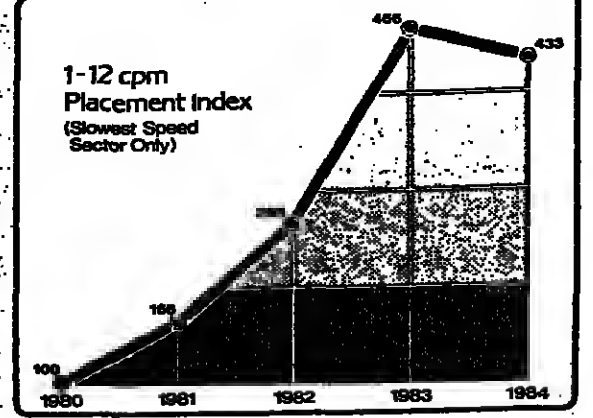
1984 Total Placements



Throughout last year, Canon, Minolta and Sharp were locked in battle for the desktop copier market, in the UK according to the latest figures from National Business Equipment Survey's "Continuous Copier Survey."

The desktop market is now the major segment. Basically consisting of machines which operate at between 1-25 copies per minute, it accounted for a massive 65 per cent of placements made in 1984.

Figures in the fast cpm sectors have remained remarkably static between 1983 and



1984. It therefore appears that the 12-25 cpm band has increased its placement percentage at the expense of the 1-12 and 26-30 cpm bands, leaping 6 per cent each. Thus, 1-12 cpm placements are down 6 per cent from the 1983 figure of 49 per cent to 43 per cent and 26-30 cpm placements are likewise down from 12 per cent to 6 per cent in the course of the year.

Mr. G. P. Barua, director of NBES, says, "This is actually a very significant fall for the 26-30 cpm sector—in the space of one year it's seen half of its market placement percentage wiped out."

The personal computer phenomenon

ALTHOUGH THERE is a slow-ing-down in the personal computer market in the U.S., the total number of PCs installed in UK offices topped 250,000 last year, while sales will again double this year, pushing the installed base to more than 500,000.

These are some of the findings of the latest Oasis report which suggests that "the U.S. market is pleasing because most of the people who can reasonably justify purchasing today's technology are probably doing so. We may see the same effect here in the UK in 1986-87."

The next generation of machines will be much more powerful, and the operating system much more helpful—this will release a second wave of buying.

Other findings in the survey show that the personal computer market in Britain last year exceeded 140,000 units, representing a total outlay of £600m.

Sales will again double in 1985 and push the installed base over 500,000.

per cent of the machines are shared. All the personal computers in the survey were used by executives, at least part of the time through secretarial usage.

Word processing is the most popular application, closely followed by spreadsheet/accounting.

By 1990 the total annual spending on hardware and software will reach £3bn, and the total number of machines installed will be approaching 3m.

These 3m systems will be split between clerical and secretarial machines, similar to today's devices but at half the price, and a new breed of sophisticated systems for executive use. This will represent an annual outlay of £2bn on hardware by the end of the decade, and a total market, therefore, of more than £3bn.

Managing this growth, and providing the support and training to assist the users to fulfil their needs and exploit the performance of these devices will be a major task for software vendors over the next 10 years. An empirical law suggests

that there are about seven major vendors in each stable element of the office equipment market and that each new technology introduces one new player: Xerox in copying; Digital in mini computers; and Wang in word processing are the most obvious recent examples, says the report. It is not clear who, if anyone, will emerge from the PC environment to become one of the majors of the industry.

The other elements of the survey, which is claimed to be the most complete analysis of the PC environment in Britain, are a review of the major potential for staying in this market.

Wharton also concludes that the wired office is unlikely to be generally in place by 1990, but departmental systems, either using a controller or a small network, will be widespread.

Personal Computers in UK Offices: Wharton Information Systems, Richmond upon Thames; £650.

MICHAEL WILTSHIRE

Western Europe's software and services market tops \$12bn

Software packages boom

Computer usage

BORIS SEDACCA

THIS HAS not been a good year for the "electricals" sector, not only for companies at the hobby end of the computer market, such as Acorn and Sinclair, but also for solid companies with wide spreads of activity, including GEC, Thorn, EMI, STC, Racal and Plessey in the UK, and even IBM and AT&T in the U.S.

The problems were thought at first to be structural—established companies showing signs of becoming moribund unless they began winding down old product lines and investing in new markets and technologies. But then, one of the software stars which were thought to be immune to prevailing market conditions, Micro Focus, also came down with a bump.

If the problems facing the industry are merely cyclical, no one could have predicted the severity of the slump. But as sure as day follows night, there will be a recovery after the shakeout.

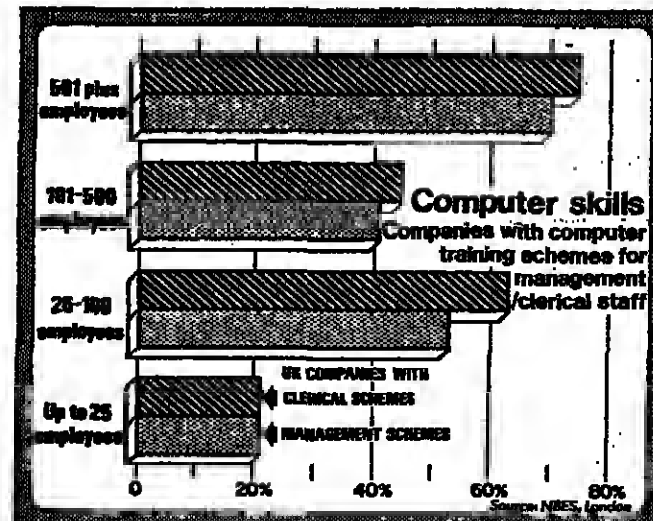
Forecast

According to a recent survey, published by market research analysts International Data Corporation (IDC), the personal computer market for businesses in Western Europe is forecast to grow fivefold by 1990 when personal systems worth more than £80m will be sold each year. However, the boom is expected to be matched by a corresponding fall in the home and hobby computer market. The high street computer sector is expected to continue to be extremely competitive, even for more sophisticated products designed to appeal to the small business user.

But according to another recent survey, carried out this time by Manpower, the temporary staff company, 80 per cent of personal computer users in large companies believe they are not getting the maximum benefit from their machines.

The views of nearly 600 people, mostly companies with more than 500 employees, were sampled in the review. Users blamed lack of adequate training and inadequate time for setting up and practising with the computer. Some complained about "non-existent training" and "incomprehensive manuals."

There has been very little outward change in the fundamental design of computer products offered by the office equipment industry.



The basic Qwerty keyboard is a case in point. The Maltrom keyboard's ergonomic layout is arguably superior to that of the conventional Qwerty keyboard, even if only for the fact that the Qwerty layout was "scientifically" designed to retard, rather than enhance, typing speeds on early mechanical typewriters in order to avoid having their keys jamming.

With the advent of "mouse-ware," the use of graphics icons—used in the place of text—and "windows."

The rate at which new suppliers of microcomputer products are entering the UK market has fallen sharply, especially in software, according to the National Computing Centre.

Changes

There were 1,083 software suppliers in June 1985, only 17 per cent up on the total of 925 a year ago. Some 240 suppliers came into the market in the first five months of 1984 while in the same period this year there were only 155.

At the same time, the number of failures has increased from 40 in 1984 to 67 this year.

The survey, which covers more than 6,000 products, packages and courses available on the UK market, shows that just under 2,800 or 27.5 per cent have been launched or revised with new features in the past three months. When products withdrawn from the market are included, there had been 1,000 product changes a month.

"The prime reason for this high rate of change appears to be that suppliers are more concerned to improve the competitiveness of existing products by price and feature improvements, than spread their efforts over a wide range of products," comments the NCC.

An analysis of the UK's top software distributors by the consultancy Romtec, supports the NCC survey, showing that three out of the top 15 distributors in 1984 had withdrawn from the market by May 1985.

The fifth-ranked company, Temax, was in receivership. MPI, tenth ranked, was being wound up through a petition initiated by Microsoft, and

WBS Softeam, ninth ranked, withdrew from software distribution in March 1985.

The leaders, Softel, with a turnover of £6.7m, and First Software with £6m, were well ahead of the rest of the field.

Growth in the sector, however, seems to be around 60 per cent a year, although profitability is down. This rate of growth is expected to continue for the next year or so before flattening off.

Romtec adds that while there is a need for software distributors, there is only space for a few. "There is nothing special that extra distributors can offer, but it is an attractive cottage industry because much of the business can be done by a small number of companies, each of which exerts a small influence on margins."

Romtec concentrates its studies on the micro end of the market, but if one takes a broader view, the turnover of UK computing services companies broke the £1bn barrier in 1984, according to the latest annual survey of the European computing services industry.

The UK computing services industry, of which the software industry is one part, began to take off in the sixties with the advent of the bureau—organisations selling computer time to companies which cannot afford their own computers or cannot keep them fully utilised.

Many began to offer additional services based on standard software, including payroll and accounting, while others specialised in providing services to specific "vertical" markets and industries, such as banking, construction and insurance.

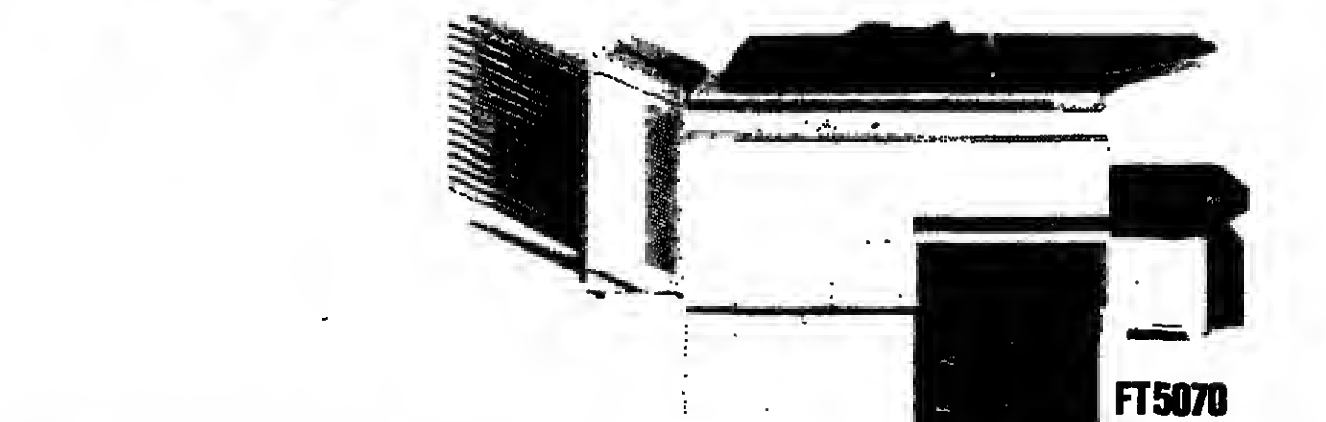
Dr Douglas Eyskens, director-general of both the UK and the European computing services associations, noted that 1984 was an outstanding year for software products (packages) with growth rates of about 38 per cent.

The total market for software and services was \$12bn in Western Europe. Turnkey systems, included for the first year in the survey, showed the most dramatic growth. Turnkey systems are complete custom-built computer systems supplied to the customer as ready-to-run with hardware and software.

The even more optimistic takas of the UK market. Mr John Butcher, Under-Secretary for April that the British computer software industry alone is estimated to have increased its turnover from £1,750m in 1983 to £2,120m last year—more than double the CSA's figure. So

CONTINUED ON PAGE 3

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Office Equipment 3

Increased power and functions have eroded the division between word processing and computer-run text processing equipment

Different systems begin to merge

Word processing

KEVIN TOWNSEND

WORD PROCESSING, according to a new report from the U.S. market researchers Frost & Sullivan, is in a state of flux.

The fairly specific division between word processing and other types of text processing equipment that existed until 1980 has been breaking down progressively since that date,

One area in which this is most apparent is in the traditional distinction between the dedicated word processor, and the word processing software package running on a personal computer.

Word processing originated from two separate sources: the dedicated machine evolved from the automatic typewriter; while the software package evolved from the text editors devised to help computer programmers.

The different derivation explains the basic difference between the two types of word processor. The dedicated system

was designed for typists, and has to be easy to use. The text editor was designed for computer users, and power was the primary prerequisite. Since its earliest days, each type of word processor has sought to emulate the better features of the other, so that PC word processors are becoming increasingly easy to use (for example, MacWrite and GEMwrite), while dedicated systems are becoming increasingly more powerful and flexible (for example, Wordplex and DEC's WPSS).

Well defined

The result is that it is becoming increasingly unrealistic to speak in terms of a "dedicated word processor" on the one hand, and word processing software on the other hand. Nevertheless, these distinctions are still made, and can be used provided the terms are given their historical context.

Within these definitions, one of the best-known and strongest "movements" has been the erosion of the dedicated market by the ascendancy of the PC market—so much, in fact, that for several years industry commentators have been suggesting

that the days of the dedicated word processor are numbered.

The facts belie this suggestion. What has happened is that the dedicated word processor has focused in on the smaller but well-defined market of dedicated typists, while the larger market of part-time word processing users have been able to settle for a part-time word processor.

In the meantime, of course, the dedicated manufacturers have expanded their interests to include "office automation," rather than simply "word processing." Wordplex, almost synonymous with "dedicated word processing," is a case in point. The company decided many years ago that it was only the stand-alone market that was beginning to level out, while the market for multi-word processing within an integrated office would continue to expand.

Wordplex now has more experience than any other company in the market—"We were selling and installing shared resource systems in 1976—long before DEC, Hewlett-Packard or anybody else had even woken up to the potential of the office systems market," claims Mr. Richard Kemp, managing director.

As a result, Wordplex is one of the few companies that can point to consistent and unbroken growth despite the current depressed state of the computer market.

Another traditional giant in the dedicated WP market is Digital Equipment Company (DEC). DEC claims to be the second largest computer manufacturer in the world, and has a word processing system (called WPSS) that is perhaps the most frequently imitated word processor of all.

This system started life as a straightforward dedicated word processor known as the WS78. Over the years it has evolved, through the DECmates I and II into the current DECmate III word processing workstation. Although it is essentially the same software as that running on the WS78, DEC now markets the product as a workstation that should be seen as the specialist typing arm of its integrated office product called AIX-1.

Under current definitions, it is impossible to say whether WPSS should be viewed as a dedicated word processor or a word processing software package—these days, Digital's new description of it as a word

processing workstation.

While these examples typify the way in which dedicated word processors are evolving, they throw no light on the way in which PC packages are moving. It was the U.S. company, MicroPro International, that laid down the standard with a package called WordStar. This has been so successful, and is still so prolific, that several different surveys claim that between one in four and one in five of all PC users actually use WordStar.

However, ever since the arrival of WordStar, other packages have tried to be just as powerful—but as easy to use as the dedicated systems. Unfortunately, in computing terms, "power" and "ease" are incompatible. To make something powerful, the user is allowed to get as close as possible to the "raw machinery" of the system—but to make something easy-to-use, the user is kept as far away as possible.

As a result, PC word processing suffers from a type of split personality. There are a few systems that simply try to be powerful—and are excellent at that. There are a few systems that try to be easy-to-use—and indeed are exceptionally easy.

But there is a great mass of word processing software that tries to be both and fails to be either.

An example of an easy-to-use system is GEMwrite from Digital Research. GEMwrite draws on all the recent research into graphics, icons and the mouse to provide a word processing system that is relatively powerful but very easy (and enjoyable) to use. It is the sort of word processor that is perfect for the non-expert executive, for the system itself guides the user through each function, including the complex routines.

In contrast to this we could cite the new package, produced in the UK, called LaserWorld. This has been designed to make use of the new laser printers now coming on to the market (see elsewhere in this survey). But LaserWorld is really an extension of an existing package called Bonnie Blue, which was specifically designed for users who wanted to be able to use the full power (in this sense, "power" means "speed") of the current PCs.

In this way LaserWorld is not a suitable word processor for the average corporate typing pool—but for the user who wishes to produce laser print-out macros, perform multiple

Sales growth in Europe

(Figures for 1984, for which the total market in these four sectors is \$4,853m)

Electronic typewriters	\$939m	(4% growth)
Word processors	\$378m	(13% growth)
Personal computers		
(dedicated to office use)	\$1,687m	(82% growth)
Office automation systems	\$65m	(390% growth)

Source: Wharton Report.

European text processing market

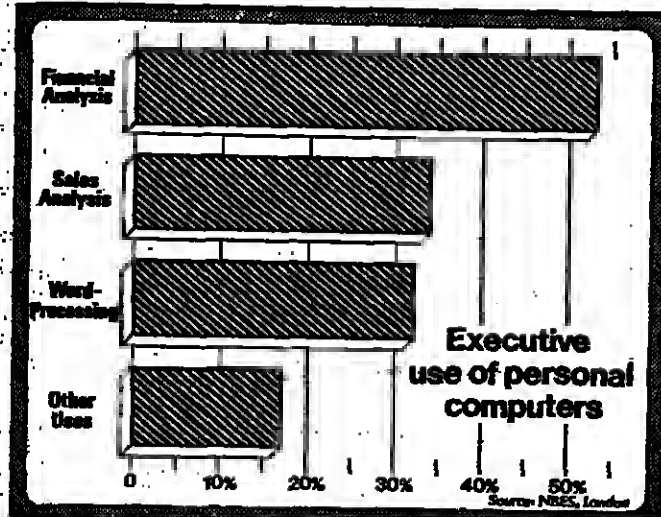
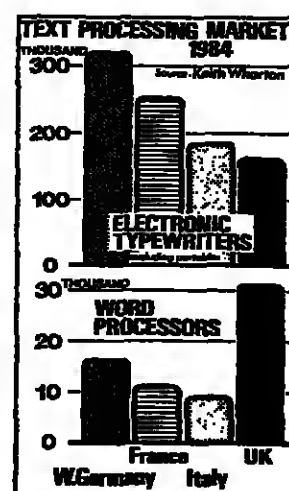
Year	Annual Revenue (\$000s)	Growth %
1981	565,526	+140
1982	1,112,325	+120
1983	2,333,890	+110
1984	3,202,220	+37
1985*	3,656,560	+14

Annual sales in text processing market (in 000s units)

Year	Units	Growth
1983	1379.8	—
1984	1824.9	+32
1985	2217.9	+22

*Estimate

Source: Wharton Market Report.



A recent survey reveals that senior executives in the UK, with access to personal computers and terminals, are most likely to use them for financial analysis purposes. More than half the sample—53 per cent—uses them in this way. Around 44 per cent of executive PC-users said they fed data into the computer; a slightly higher proportion, 49 per cent, said they also retrieved data. (The total in this NBS analysis exceeds 100 per cent due to multiple mentions by PC-users).

Computer systems

CONTINUED FROM PAGE 2

much for statistical. But there is always a problem in putting together accurate global figures for any specific market because it always depends on what is—and what is not—included in the particular categories.

The fact that turnkey systems show more growth potential than software products indicates that customers always require some degree of software customisation for their particular way of doing things, even though they may be using generic software packages such as ledgers and payrolls for their general requirements.

The production of a line of code today costs about the same as it did some 25 years ago. At that time however, applications were less sophisticated and the code generated was less complex.

Today, a problem requires the generation of many more lines of code because more encompassing functions and reports are required, as well as the need for integrated systems, demands for real-time information, round-the-clock operations, larger data files, remote communications, and data security.

Inbucon, a London-based management consultancy, found that only 171 out of about 600 companies surveyed for a special study were using software development products called fourth generation languages (4GLs).

Yet the report largely confirms the claims of 4GL suppliers that they can lead to considerable productivity gains. Increases in programmer productivity and decreases in development time of between four and 10 times are claimed, together with dramatic reductions in the work needed to maintain the software.

The first generation of computer languages was very primitive, with sets of 0s and 1s representing electronic impulses put together in simple codes, read directly by the computer.

Second generation languages substituted mnemonics for binary digits—LDA instead of 010101 for "load accumulator," for example—but it was not until high-level or third-generation languages, such as Cobol, evolved that it was possible to give commands to a computer in anything like everyday language.

But then, the computers themselves became more powerful. Fourth generation

languages were introduced as a partial answer to the problem of generating increasingly sophisticated and comprehensive computer systems.

The most pressing problem for data processing managers, study after study has shown, is meeting project deadlines and reducing the backlog of development and maintenance work.

A traditional solution has been to install a package a piece of software written for a specific application but in such a form that it can be sold, unmodified, to a number of customers each of whom reaps the benefits of the economies of scale obtained.

But as Inbucon points out: "Packaged application software, one solution to the problem, only covers fairly standard sets of requirements. Most medium or large organisations still need to undertake bespoke (or custom) software development and this has now become the target for the newer efficiency and productivity aids."

So 4GLs evolved as application generation tools, pieces of software which made it easier for programmers to develop other programs.

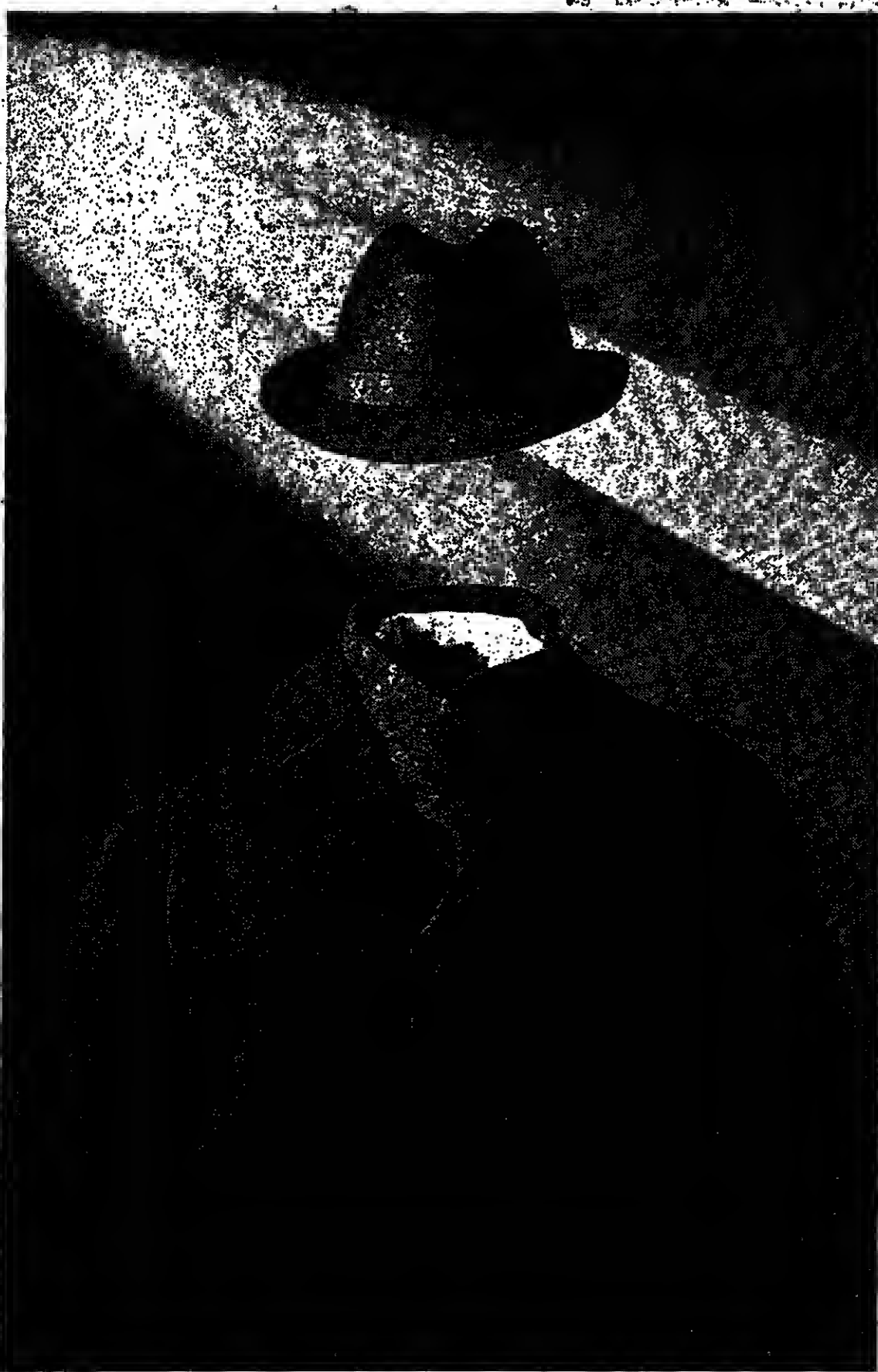
Accuracy

It also makes possible "prototyping," creating a prototype of an application quickly and without too much concern for absolute accuracy to see whether it really is what the customer wants. Customers are notoriously bad at making clear what they really want when they specify computer systems—receiving a system to suit takes time, money and patience. There is, however, an overhead, to be paid when using a 4GL. The lead on the computer inevitably increases because of all the processing power being used up making life easier for the programmer.

Fourth generation languages are considered to be part of the software side of computer systems. Some suppliers prefer to talk of a fourth generation "environment" rather than a language.

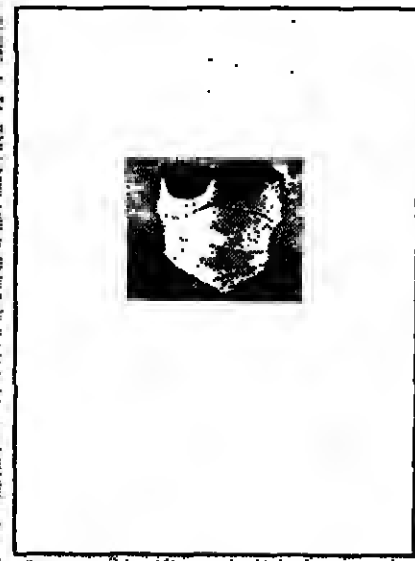
The next stage will be the "fifth generation computer" where the software and hardware will be so closely coupled that the two will be indistinguishable and inseparable. Work has already begun on it, but the concepts are very futuristic and all-encompassing, so it will take a very bold person or organisation to propound the sixth generation computer. By then, perhaps even the word "computer" may fall into disuse.

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Office Equipment 4

Confident market despite dip in demand

Electronic typewriters
KATE TAPHOUSE

ALTHOUGH THE demand for electronic typewriters in Britain has been accelerating at a much faster pace than any other business equipment product sector, apart from the fast-moving micro market, concludes a new survey by the National Business Equipment Survey, "summer '85 has shown a distinct falling-off in demand."

This news will undoubtedly surprise and dismay many of the world's leading typewriter manufacturers. Other surveys have recently estimated that there is something like 8m mechanical typewriters that are approaching the end of their

useful life. These mechanical typewriters will undoubtedly be replaced by either fully functional word processors or electronic typewriters. And while almost everybody believes that a dedicated word processor is ultimately more efficient and flexible than a typewriter, nevertheless the price differential is likely to mitigate towards the typewriter for the smaller company.

This factor becomes even more advantageous when the typewriter selected can be built into a full word processor, as and when required, simply by adding the extra functionality through modular screen disks, memory and so on.

It is quite likely that the current downturn in demand is either a seasonal or other temporary fluctuation rather than any sign that the boom is over. The unexpected dip in demand for electronic typewriters from

May onwards probably reflects far more product evaluation among UK buyers (rather than just buying off-the-shelf), suggests Mr Mike Brownbridge, head of Brother's typewriter division in the UK. Today there are 150 models to choose from nearly 30 brand names, whereas five years ago there were only two brands and four models on the market.

It is certainly true that some of the world's leading manufacturers are still very confident—a confidence that will have been strengthened by the double-edged sword of IBM. IBM, noted for an almost legendary marketing ability, has recently launched three new electronic typewriters.

This move, on the one hand confirms the potential of the market, but must also disconcert the existing producers. IBM has a traditional liking for and success in achieving, 50 per cent

of any market it seeks.

Surprisingly, however, IBM does not figure among the current word leaders—having been knocked into second place, even in the U.S., by Rank Xerox. Both companies, incidentally, have used the European giant, Triumph Adler (which claims to make one in six of the world's electronic typewriters) to produce some of their systems.

Mr Peter Oddy, product development manager at Hermes Precisa, believes that "the battle for electronic typewriter sales is between the Japanese and Europeans—with the Americans nowhere in sight."

Competition

He cites a recent report that describes Olivetti as the UK's leading supplier, closely followed by the German companies Adler and Olympia—and only then Canon and Brother from

Japan. Hermes Precisa, incidentally, is now part of the expanding Olivetti empire, and Mr Oddy feels that the growing threat is from Japan rather than the rest of Europe or the U.S. Indeed, he finds that neither IBM nor Xerox provide any challenge to Hermes Precisa outside of central London, and suspects that the former's current typewriter sales "ride on the back of its computer installations."

Threat from Canon, in particular, is well perceived. Mr Eddie Scougall of Eriksen Information Systems pointed out that "Canon is said to have taken more than 50 per cent of the UK market between 1982 and 1984"—which had "been achieved by pricing policies rather than innovative technology."

For "pricing policies" in this instance some read "dumping"—and, indeed, the EEC came to a similar conclusion by imposing duties of up to 33 per cent

on certain Japanese makes. (Brothers Industries' recently opened assembly plant in Wales that will allow it to avoid these duties.)

There is, of course, a strong likelihood that the price of the Japanese computers will rise in relation to their competitors. Since there is very little "typewriter" demand in Japan itself (other than the highly specialised and very different Japanese language typewriters), the Japanese manufacturers are producing solely for the western market. It would be consistent with known strategies for these "pricing policies" to be used solely to gain entry into the market before the prices are allowed to float upwards to a more realistic level.

"They are using price," says Mr Scougall, bluntly, "to gain a foothold." The new Eriksen Information Systems is a well-known producer of electronic typewriters and other technology-based products, but

is best-known in the UK under the brand name of Facit. While acknowledging that Olivetti remains the UK market leader, Mr Scougall points out that since the first Facit product in 1962, the Olivetti market share has dropped from 40 per cent to 30 per cent—while Facit's share has risen from nothing to 8 per cent.

However, with computers becoming cheaper, and electronic typewriters becoming more powerful, there is an increasingly blurred distinction between the two. Facit's top-end machine has 40 Kbytes of text storage capacity, and can store up to 52 standard phrases and formatting routines.

Most of today's systems have communications facilities, and many can be used as telex and/or teletext terminals. The new IBM range has an optional 50,000-word spelling dictionary that checks each word as it is typed, and warns the operator if it detects a word that it does

European electronic typewriter market

Olivetti	26%
Olympia	19%
Triumph Adler	15%
Brother	10%
Facit	7%
Others	23%

Source: Wharton estimates.

not recognise.

And while word processors are ideal for producing large numbers of repetitive standard letters, many companies still need to produce one-off individualised letters, memos and so on—for which an electronic typewriter is often faster and easier. But the two technologies are not mutually exclusive, for many electronic typewriters are also used as printers for the output from word processing systems.

"I see the two techniques as co-existent," agreed Mr Scougall, "each with its own role to play, rather than as competitors."

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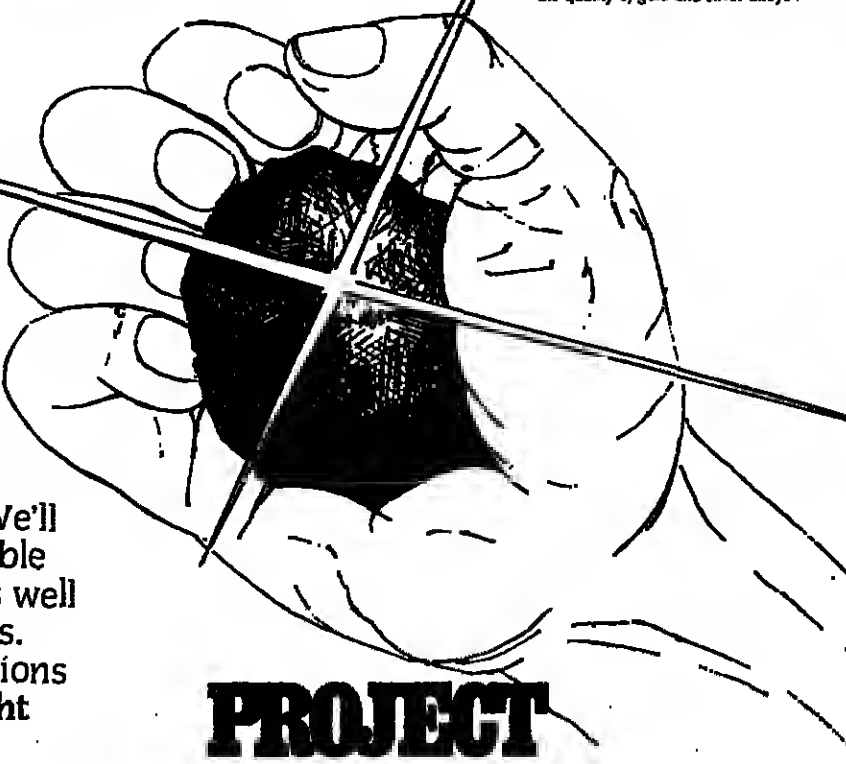
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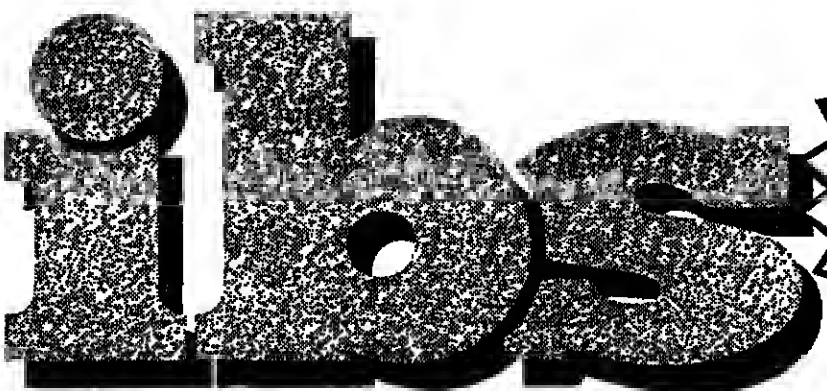
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New generation
telephones
KEVIN TOWNSEND

BRITAIN'S offices, according to some overseas observers are more American than European—and nowhere is this better seen than in contemporary telecommunications. While the mainland European governments show little enthusiasm for de-regulating their national telephone authorities, the UK has followed the American lead and first liberalised and then privatised British Telecom.

In the U.S. it was the massive Bell company that needed to be controlled: in the UK it was the state-instigated monopoly of a nationalised industry. The parallels, however, are so strong that much was learned from the U.S. experience.

Freed from the need to purchase from Bell, the U.S. market received a sudden and enormous demand for cheap and innovative telephone handsets—and needless to say, the demand was filled by cheap imports from the Far East.

Bell itself could not decide whether it wished to become involved in the frozen telephone retail industry. It watched, put its toe in the water, drew back and watched again. The problem was that the public wanted the quality to which it was accustomed at the price of the new imports—and the two were incompatible.

Timely

The UK, fortunately, seems to have learned in time. Perhaps it is an inherent European reserve that holds us back; nevertheless, the BAST approval system has applied a swift brake to prevent the "yes for all that occurred in the U.S. The result, however, is claimed by many to be too extreme: that BT actually uses the approval system to maintain (or at least cling on to) the vestiges of its old monopoly.

Be that as it may, British Telecom's monopoly on the "primary instrument" ended in January 1985, and, according to the research of UK company



● **BRITISH MONOMARKS** has launched a service which enables users of both micro and telex to communicate. The service, called Monodata, is a simple and economical electronic mail service ideally suited to the small business owner. Monodata provides a desktop telex service without the heavy costs of specialised telex equipment, says Mr Stanley Solomons (above), joint managing director.

Dialtron, has created a market worth £10m for simple telephones this year alone. This market comprises over 30m handsets attached to 15m residential and 5m business lines.

Dialtron is one of the companies that has accepted the challenge of liberalisation. It manufactures, for example, the Rumour 10 handset that now outsells BT's own Simtel system. Another company challenging BT's erstwhile markets is Vanderhof PLC—manufacturer of the small PABX known as the STAT 10. It is this area of telephone equipment that is revolutionising the new private exchanges. The biggest single trend in all computer equipment is away from the mechanical and analogue towards the electronic and digital.

Indeed, so strong is this movement that it is becoming increasingly difficult to choose between local area computer networks (LANs) and traditional, in-house, telephone or PABX networks.

One excellent example is Plessey ILS, which is primarily a PABX that can carry data as happily as voice, and can accept computer terminals as easily as telephone handsets. Since every existing company automatically has an internal telephone network, many of the new LANs are specifically designed to operate over the existing telephone lines.

But computers are also being used to monitor other telephone equipment. Known as "call-loggers" such systems are designed to monitor the use and expense of all the individual lines and extensions in a given telephone system—and, of course, with increasing telephone use and increasing telephone costs, it is a booming industry.

The amalgamation of telephone and computer is

nowhere better seen than in the QPD from ICL. Known as the Tonto, when purchased from British Telecom, this machine is a remarkable testament to British ingenuity and co-operation. The hardware, architecture, together with the archive storage and the BASIC programming language, come from Sir Clive's Sinclair Research. The application software (Xchange) was developed by Pion.

The telephone system was produced by British Telecom. And the whole system was integrated and put together by ICL itself. The result is a desktop system that is both a highly computerised telephone, and/or a very powerful desktop computer.

Each QPD has two telephone lines so that one can be used for speaking, while the other can be simultaneously engaged in a data dialogue with a mainframe computer. The computer side of the system can even be used to make automatic telephone connections with any of hundreds of telephone numbers stored in its user's private directory—without the user needing to lift the handset.

Perhaps the biggest competitor for the QPD in the UK is the well-established and much-praised Executel. But it may not be too much of a problem, since the Executel is manufactured by STC—which of course now owns ICL. There are some critics of the QPD that claim that it does nothing that Executel cannot do more cheaply; and it is certainly true that Executel development continues, with new versions due imminently.

In the meantime, it is becoming all-too-easy to be confused by the vast numbers of new equipment spurred by the twin drives of digital technology and BT liberalisation: new handsets, autohandlers, modems, PABXs, key systems, facsimile machines, telex, teletext, cellular radio, call loggers, videotex, electronic mail and so on. Needless to say, where there is a market, there is an exhibition—What Telephone & Communications Show? at the Novotel, London, in November. Details of other specialist exhibitions are listed on the last page of this survey.

New printing age dawns

Computer
printers
KATE TAPHOUSE

THERE are essentially only two types of computer printer: fully formed character printers; and dot matrix printers. But within these two categories there are dozens of different technologies. The fully formed character market is now dominated by the daisywheel printer, although much faster "line" printers are still used at large computer installations. Dot matrix printers range from the traditional inexpensive impact dot matrix to the new high-technology laser jet and thermal transfer printers.

Today, the typical microcomputer installation is typified by a daisywheel printer for letter quality correspondence printing, and an impact dot matrix for draft and graphics printing. However, both the daisywheel and the impact dot matrix printers are under threat from newer ink-jet, and, more particularly, laser printers. The understanding the characteristics of printer can explain what is happening. A fully-formed character printer works by pressing an image against an ink-laden ribbon and onto the paper.

This method has three primary properties: the variety of different images is limited to the number that can be physically transported by the printer's printing medium; the quality of the image is generally very good; and there is inevitably a high degree of noise associated with the impact necessary to

transfer the ink to the paper. It is also, of course, an essentially mechanical method in an electronic age.

The impact dot-matrix printer works in a similar fashion, but builds up individual character images from a pattern of dots. The typical printer in this category will have a vertical row of, say, nine wires or pins in its print head.

As the head travels horizontally across the paper, different combinations of these pins are fired against the ribbon. The method of transferring the image on to the paper is similar to the daisywheel printer (that is, by "impact"); but the energy required to fire individual pins is much less, and the resulting noise level is much lower.

The mechanical element is less, and the potential speed is much higher. The quality of the image, being nothing more than a pattern of dots, is greatly inferior to the quality of the daisywheel. However, its one big advantage is that the number of dot patterns/characters is limited only by the variety of images possible within the pin matrix of the variety of images possible within the pin matrix of the printer concerned. Since the patterns are usually controlled by software, dot-matrix printers can, theoretically, produce a wide range of different types—styles—even within a single document.

Lasers

It takes little imagination to see that the ideal printer would have the versatility of a dot matrix and produce the quality of a daisywheel—and, indeed, it is the attempt to find this ideal that has led to the latest development in printer technology; the laser printer.

Laser printers have been in existence for several years, but they are only now becoming cheap enough for the mass market. The technology is actually very simple to grasp, for they are an amalgamation of laser and photocopying technology.

Picture a revolving drum: as it revolves, its surface is energised by a laser, which builds up the image on the drum. As it continues to revolve, this surface picks up "ink" which, further on, it transfers to paper for the finished product.

The laser itself provides the quality of the image being able to pack up to 30,000 dots in a single square inch. The photocopying element of the technology provides the speed (currently between 8 and 12 pages per minute for a typical desktop laser printer); and the whole process is inherently quiet.

But there are two major problems with the current range of laser printers. Regardless of the name on the cover, the majority are Japanese in origin—and, like most Japanese products, they are sold in the UK via distributors and dealers. However, the technology is so new that not all dealers can be expected to fully understand the intricacies of the new systems. For the time being, laser printers are best purchased from specialist printer suppliers such as Zygo Dynamics.

The second problem is that there are, as yet, very few software packages able to make use of the potential provided by laser printers. Many of these printers can, for example, store the software necessary to print up to a dozen different type faces—but the majority of word processors were designed for

the single type-face capability of the daisywheel printer.

This, then, is the current state of the market. It is effectively the dawn of a new age in printing, when high quality results can be achieved at the touch of a button. The market leader, perhaps not in marketing or sales, but certainly in research and development, is Rank Xerox.

Xerox made enormous profits in the early days of photocopiers and ploughed vast sums back into research and development. It was, for example, Xerox research (the Star project) that pioneered the visual-interface Mac and GEM software now revitalising the microcomputer market. Star applies this visual interface to laser printing output, but until now it has been too expensive for anything other than major companies.

Rumours from the U.S. suggest, however, that by January 1986 a fully functional Star system will be available for around \$10,000. If and when this happens, it could revolutionise the high street fast-printing industry. In the meantime, the impact dot-matrix printers are likely to cling to a large share of the market for some years to come. Indeed, one U.S. survey (International Data Corp) predicts that the U.S. market will increase from \$3bn in 1985 to \$5.5bn in 1989. And confidence in the strength of this market is still sufficient to attract more and more newcomers—Citizen, for example (of Japanese watch fame), produces a new range of four impact dot-matrix printers designed for the microcomputer market. But such printers will not make room for the laser printers in the mass markets without a fight!

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Office Equipment 5

Electronic systems open the way for greater efficiency and cost-control

A revolution in the mailroom

Mailing systems

JON MOGGIDGE

TRADITION has long dictated that the mailroom has often been the domain of the office junior and consequently it is often the last operation to feel the impact of electronics and the microprocessor.

But times are changing. Today's new mailing equipment offers far more efficiency and tighter cost-control than its mechanical predecessors.

The increase in the cost of postage—hardly a month seems to go by without the Post Office putting forward one reason or another why there should be an increase—and the many different postal rates and services, have made accuracy in postage calculation more vital than ever. The latest electronic scales have taken the guesswork out of deciding the correct postal rate to send a letter or parcel, and they display accurately the weight and rates for all the Post Office's services on an LED (light-emitting diode) display.

These machines have eliminated the problem experienced with mechanical scales of a

borderline decision where the user can either play safe and frank at the higher rates, possibly wasting money, or opt for the lower rate, risking a bold-up in the mail if he makes a wrong estimate.

Sophisticated in their operations, yet simple to use, these scales usually require a single keystroke for each function. Moreover, when the postal rates are changed they can easily be altered by a replacement chip which is programmed with the new rates. This is sent by the manufacturer to the user, but at a cost, of course.

Electronics have also transformed the franking machine market. The old-type fiddly mechanical dials and levers have, in most cases, been replaced by push-button keypads and LED displays show the postal amounts selected.

Eliminating the mailing process further, electronic scales may be interfaced with electronic franking machines. Such systems automatically select the correct postal rate on the franking machine via the scales. They are a boon to the high-volume users whose mail often varies in weight and postal services available.

Pitney Bowes and Hasler offer this facility in the UK. Furthermore, Evopak intends

to launch a German machine, the Francotyp 3000 (which has similar capabilities) at the International Business Show at Birmingham's National Exhibition Centre in October.

For companies with high-volume computer-generated output, such as bank statements, invoices, letters and so on, it is now possible to interface a folder/insertion machine with the electronic franking machine enabling stationery to be folded, inserted, franked and sealed in one operation.

New model

Hasler will demonstrate its latest model in this field, the RMB, for the first time in Britain at IBS. More than £2m has been invested in its development and it boasts some interesting features. These include a double/misfeed detector with ultrasound sensing which checks that the envelope's contents are correct; and a new folding carriage which allows almost any type of document to be processed—for example, thick documents, such as credit cards, and forms which are wider than the envelope.

The demand for departmental accounting has also spawned electronic franking machines which offer daily print-outs of departmental totals. So far,

Hasler is the only company to offer a machine with a built-in printer. Other manufacturers, such as Pitney Bowes, offer this function but require another unit to be interfaced with their franking machine.

A recent innovation in the crediting of franking machines is a remote meter resetting service (RMRB) which enables the customer to telephone Pitney Bowes' central computer; this then issues a coded number. The user keys this number into the machine thus recrediting it to the value of the cheque sent to Pitney Bowes. That is a great improvement on the old system which entails logging a weighty meter to the Post Office for recrediting.

Another method of recrediting is the Value Card brought from the Post Office for a certain value and simply slotted into the meter. This method has only a small share of the market and users may encounter problems with it since some Post Office staff are not yet familiar with the system.

With the rapid spread of the personal computer, more companies are producing address labels on office computer labels. These addresses can be printed on self-adhesive labels, listing paper or straight

onto the envelope by direct impression printers.

For more sophisticated data management there are specialised micro-based addressing systems such as ASI's Sprinter data retrieval and printing system which is no bigger than the average typewriter. It comprises a typewriter keyboard, a fast printer, two-line display and 5¼ inch disc drives and built-in software.

Capacity

The Sprinter stores up to 1,024 entries per disc which can be manipulated for sorting, coding, editing and so on. Selective printing is also available. Encoded information on file can be selected by using six "and" and six "or" criteria—a capability that could be put to good use by, say, an estate agent faced with the problem of matching applicants' requirements with suitable properties available, and involving details such as price, type of property, number of bedrooms, garden and so on.

Security is often a problem when producing and distributing computer-produced confidential information. Speediseal, a new system from Moore Paragon, is claimed to be the answer. In a single operation

the system produces a complete, self-contained original printout in a rapid continuous operation.

Using their existing computer equipment, the operator can print variable data on each Speediseal form before passing it through the equipment which folds, trims and detaches the form then heat seals it creating a self-contained envelope ready for posting.

Each copy is an original and therefore difficult to alter.

By designing a two-part version of the form, the problem of beet seal adhesive being incompatible with heat fusion impact printers has been overcome.

Finally, the all-important, all-embracing question of the postcode. In the UK plenty is being done by way of publicity to encourage businesses to use the postcode, and it certainly makes sense. Under "The Postcode Project," the Post Office offers advice and, in certain cases, a financial contribution that may even extend to the full cost of postcoding a company's computer address list.

In addition, companies may be able to take advantage of significant reductions in postal charges by using the postcode in their customers' addresses.



THE UK microfilm market increased last year to more than £114m, compared to £97m the year before, according to Bell & Howell.

Computers have led managers to expect faster access to information and this in turn has made them more dissatisfied with conventional paper filing systems.

Rapid retrieval means rapid decision—one reason why computer-assisted retrieval (CAR) systems are one of the fastest growing sectors in the microfilm market. Bell & Howell's sales of CAR systems doubled in value in 1985 to

take them to 18 per cent of their systems sales.

● Pictured above is the Bell & Howell DataSearch CAR system, recently installed at Lucas Services, the car electrical component company, enables staff to retrieve in excess of 300 documents a day. The system was chosen for its simplicity of operation and speed of access.

A variety of accounts correspondence is filmed in-house at random and the descriptions for each document are entered at the same time as the image is captured, allowing Lucas to create an index simultaneously.

No easy solutions

Electronic filing

KEVIN TOWNSEND

THE PROBLEMS of filing are well known. Any single document can be filed under any one of dozens of different references and is likely to be filed under the wrong one. A mis-filed document is virtually the same as a lost document.

For many years researchers have dreamed of a solution from new technology. The computer's ability to search enormous quantities of data quickly and efficiently would seem to be an obvious answer. But experience has shown that this is not the simple solution. The problem is that the computer's traditional strength is in searching fixed formats—like an index—rather than the text itself.

It is easy to get a relatively small computer to store and search the card index to the filing cabinet, but it is still virtually impossible to get the same computer to store and search the whole of the cabinet's contents.

There are two primary problems:

● Firstly, and despite the falling costs and increasing capacity of computer hardware, it is still impractical to think in terms of storing the entire documentary data—for even a small company—on a computer.

● The second problem is that the effort taken to enter all of this data into the computer would be prohibitive. Paradoxically, a small company could not afford a large enough computer; while a large company would have too much data to make the effort worth while.

In some respects, these problems are likely to be only temporary, and current research suggests that they will be solved within a few years. Text input, for example, could be achieved automatically by optical character readers (OCRs).

At the moment, OCRs are incapable of accurately reading the smudged, dirty and damaged documents that might contain several different typefaces. However, as the hardware improves and becomes aided by the new software-based interpretation aids such as Southdata's Typereader, this may cease to be a problem.

Laser disks

Furthermore, the physical problems of storing the vast amounts of data required of such filing systems may soon be solved by the arrival of the new laser disks due to start appearing within the next few months.

Users would be silly to invest in systems to automate existing storage and retrieval systems, when laser disks that will store large volumes of data, and many other good possibilities, are just around the corner," comments Southdata's managing director, Mr Peter Laurie.

This is not a view shared by everyone. The "technologically possible" tends to take many years before it becomes the "practically possible." And even then, the cost may be prohibitive for all but the largest companies. It follows, then, that any company with an existing filing problem should seek a solution from existing possibilities.

Depending on the resources available, these tend to fall into one of two broad categories. A computer can either be used to store abstracts of the document together with an indexing system to allow users to locate

their required abstracts, or it can simply store a more sophisticated indexing system that will cross-reference to the physical position of the documents concerned.

This last solution is probably the best current solution for the small company, for almost any microcomputer with almost any microcomputer database system could be used.

However, it is no solution for the large company that may have millions of documents in store. Knowing where a document or documents are held is not the same as retrieving those documents. And this has led to the concept of computer-aided retrieval of microfilm.

The theory is simple: documents are microfilmed and stored, and a cross-referencing index is entered into a computer. This basic concept has been elaborated by specialist manufacturers, such as market leaders Bell and Howell, with an integrated system that can not only locate and retrieve microfilm documents in seconds, but can also produce hard paper copies in about ten seconds.

Stage further

One such installation is at Lucas Services UK, where the concept has been taken one stage further. Many of Lucas' documents are actually produced by their own computer. Using computer-output-to-microfilm (COM) techniques, the microfilm and the computer index are produced automatically and simultaneously.

Many companies, however, prefer the "abstract" approach. This involves entering an abstract from the document in to a computer, and preparing a sophisticated indexing system. This is particularly useful for scientific and research companies. LERS is a Paris-based pharmaceutical company with a need to maintain and retrieve information on a wide range of products—each of which could have up to 25 different names. LERS chose a product called BASIC from the Battelle Institute itself a scientific research establishment.

The next stage was to collect and record abstracts of all the material published around the world on their products.

There are, of course, other such bibliographic databases on the market. STATUS, part of ICL's Networked Office concept, is one example originally developed by scientists at Harwell. And MicroCairs from RTZ Computer Services is one of the few systems available on microcomputers. Whatever system is chosen, however, there remains the problem of entering the abstract and index into the system—and for many companies this effort will not be justified by the ensuing results.

But all is not lost. We are, after all, in the age of telecommunications wizardry, and there are numerous specialist on-line database companies that will go the trouble and expense of entering and maintaining not just the abstract, but also the entire document. Within 48 hours of publication the article you are now reading will be stored on Datasolve's new 200m w.c. World Reporter database. User/readers will be able to type, at a terminal, any word or phrase of current interest—and the system will search out every article on the FT database containing these words. It will display within seconds the number of relevant articles, their headlines, and their length—and the user can then read, ignore or print for later study, as much as he needs.

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IBM

Office Equipment 6

Systems market breaks new records

Office furniture

MICHAEL WILTSHIRE

WHILE THE \$6.5bn a year U.S. office furniture industry continues to soar to record levels, the European market shows a new level of buoyancy after several difficult years.

In the UK, the market is now worth around £800m of which the fastest-growing sector is for computer-related systems furniture worth around £90m a year and increasing by as much as 20 per cent annually, similar to the percentage growth rate in the U.S.

There are at least 50 serious contenders in the UK systems market, where the impetus by the spread of new technology, word processing systems and personal computers.

The UK systems market is "very buoyant and far ahead of Europe in general," comments Mr Mike Brewster, sales director of Westinghouse Furniture

Systems, which is extending its range from the more familiar computer-related systems to specialised, non-traditional schemes for finance houses and banks.

Britain's overall office furniture market, including wood and metal furniture, will grow between 12 and 15 per cent this year, according to Project Office Furniture, the UK's leading producer of wooden desks. Project itself is on target for a £30m turnover (£24.6m in 1984) which will be 20 per cent up on last year. The company's sale of Matrix panel-based systems furniture is up by nearly 50 per cent. Chair sales are up by 18 per cent.

The company now claims 26.6 per cent of the UK's wooden office furniture sector and 15 per cent of the overall market, assuming a market growth of 15 per cent. Project's research programme was increased by 50 per cent in the past two years, with £3m being spent on new manufacturing plant. Its products are licensed or sold in 12 countries—and it estimates that more than 1m people in the UK alone now work at a Project

desk, made within the past ten years.

As the UK systems market becomes more mature, Mr Jeffrey Brown, marketing director for Arenson International—one of the UK's leading furniture suppliers—sees a distinct trend towards more "simple and flexible" systems furniture that can be easily understood by user-companies, but combining all the required facilities of cable management to cope with new technology.

of the group, reports a furniture sales increase of 20 per cent and predicts further growth in both traditional and simplified systems furniture. He reckons that the company's President range has captured 20 per cent of the UK desktop market.

While recognising that there is plenty of fierce competition between importers and UK suppliers, he is relieved to see a lessening of "run of the mill furniture" at "dump" prices from Eastern Europe.

Among top-of-the-range U.S.-designed systems, Herman Miller remains the clear leader in the UK, although other

importers are making determined efforts to catch up. The U.S./French company Steelcase Strafor, although a relative newcomer to the UK market, is the largest office furniture group in the world. Its turnover in Europe is around £200m, although the UK figure is only £10m at the moment.

Mr Jack Spalding, managing director of Steelcase in the UK, is seconded from the U.S. company. He has turned the UK operation from a direct sales force approach to distribution through a national dealership network which should be complete by the end of this year. Steelcase in Europe spent £3m in research in 1984 and now offers an extensive computerised design service from its European base in Strasbourg.

Among the larger of Steelcase's recent installations in the City of London are the extensive offices of Spicer and Pagler at Friary Court where 450 people have been equipped with workstations.

Vickers Furniture, the largest UK producer of steel office furniture, this year launched its System E-80, following £250,000

research and development project at its Dartford factory. The new system aims to combine the best of American and European styling—it is a modular system, compatible with the well-established System E free-standing desk range.

Lucas Furniture Systems forecasts sales turnover of £12m in the UK by 1987; the company reports good sales for its award-winning Programme 2 range and plans to announce further developments to the range which it predicts will have "a major effect on our presence in the systems market."

Lucas Interiors, an associate company, has developed with ICL what it describes as "a revolutionary type of conference room—to be used as a management and reviewing facility in a compact environment." The system, known as the Pod, will be marketed jointly by both companies in UK and Europe.

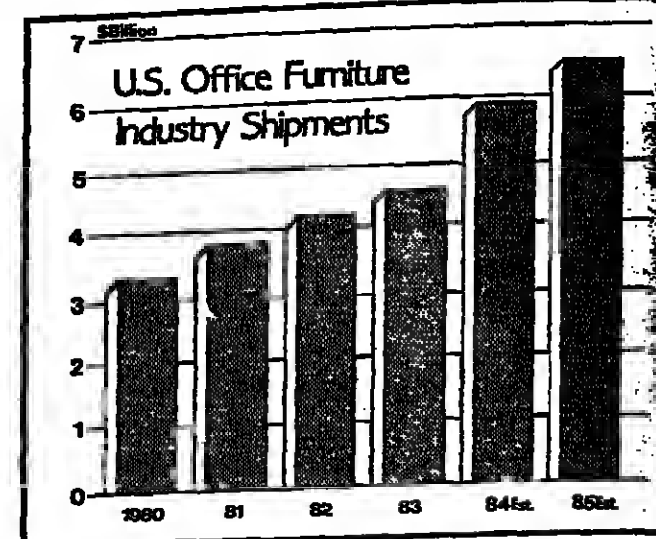
Local office equipment dealers are winning a far larger slice of the systems business, according to Mr Brian Matthews, chief executive of Caplan office furniture, part of the Pentos group. "More companies are looking

for local, personal service when they plan to invest in what is to them, a major physical overhaul of their business," says Mr Matthews. "Increasingly, they are looking to their local office equipment or computer dealer to supply this."

Pentos reports a 100 per cent increase turnover for Caplan to nearly £10m, which claims to be number two in the wooden office furniture market in the UK. A large part of this growth is accredited to the Novus systems range sold through a dealer network.

Meanwhile, manufacturers large and small are rushing to introduce new systems into an already crowded market place. Recent launches include Project's new look Prisma range which Avenon, producers of the Genesis range under the President banner, is introducing its Paris 800 system in the mid-price range.

The Office Kit consortium in the UK, led by Michael Carson, has also achieved "considerable success" with its all-British system. Office Kit recently completed contracts for the Guinness group, the British Shoe Corporation and Tiphook. The



company's easy-to-assemble designer-style system in fresh colours has a strong appeal to image-making clients in the advertising, media and design fields.

Innovations at the International Business Show next month will include the launch of Martella's "Seven-day Office" project which aims to deliver and install a fully-operational office within seven days of receiving an order.



Mr Jack Spalding of Steelcase Strafor: "In the seven years we have been in the UK market our share has risen from nothing to 7 per cent today and is rising at over 50 per cent a year."

THE RAPID growth of the systems furniture market in the U.S. is also reflected in the smaller, but lively European markets, particularly the UK, where these computer-related products now account for some 30 per cent of total office furniture sales—and the proportion is set to double over the next couple of years," predicts Mr Jack Spalding, managing director of Steelcase Strafor (UK), part of the U.S.'s largest office manufacturing group.

Westinghouse contract

WESTINGHOUSE Furniture Systems are undertaking a major refurbishment programme for Manpower, the fast-growing offices services organisation which has a network of more than 100 branches in towns and cities throughout the UK. The Westinghouse screen-based system is being installed. So far, 28 Manpower branches have been refurbished or are scheduled for refitting to reflect a newly-developed corporate image.

Wider role ahead for the micro

Sending text

BORIS SEDACCA

IT IS inconceivable for any business to survive today without voice communications in the form of the telephone. Yet for the greater majority of text communications still takes place by post in the form of handwritten, typed or printed words on paper or "bankruptcy."

The use of telex has been limited mainly to large and medium sized companies but over the last few years, a number of new text and message communication services have been coming onto the market which will be affordable by smaller businesses, too.

"Telex is the best-established international network for the transmission of urgent messages," says a forthcoming issue of Buckley's Guide to Office Automation about to be published in October. "In the UK there are in the region of 120,000 users and worldwide the figure is reputed to be around 1.5m."

Although slightly different systems may be operated by different countries, the network is effectively interlinked. The effect of technology has been limited, although Telex operators can now set up messages on a screen before sending them—a facility called "store and forward" previously provided by paper tape feed mechanisms on older machines.

"In large companies with heavy telex workloads a message switch system can be helpful. They can also record the details of each message—duration, charge rate, destination, for example—and produce weekly or monthly reports so that management can keep the use of (expensive) telex lines to the economic optimum," adds the guide.

The limitations of the telex network have been obvious for years. The speed of transmission is slow, designed to be fast enough to keep up with the fastest telex but nothing like as fast as (the speed at which) computers can send text between each other. Further-



The advantage of viewdata is its ease of operation. Here, Mr Wilfred Martens, the Belgian Prime Minister, taps into an Intersys-Belnet viewdata terminal linked to an international database.

more, telex's range of characters is limited to upper-case only and doesn't include useful characters like "x" signs and fractions.

"To put this right the public telecommunication agencies of Europe joined forces to develop a new super-fast telex system with a full range of characters called Teletex. The system is electronic rather than electrical, and so allows text to be transmitted between 20 and 30 times faster than telex," the guide adds.

Teletex provides "store and forward" facilities and the system links into the conventional telex network, but the major problem is cost. It is currently priced at a level which would discourage any but the biggest or most specialised company—the necessary "black box" that goes with the system is priced upwards of £2,000.

"More and more businesses are using electronic mail services as a low-cost substitute for telex. For some messages, especially lengthy ones transmitted over long distances, electronic mail works out to as little as a third of the cost of telex," says the guide.

Electronic mail services consist of large central computers accessed by ordinary telephone lines with data storage divided into "mailboxes."

even though working with dictation machines is faster and more efficient, two-thirds of the machines installed are not properly used. Most managers would still rather use more familiar methods, especially as dictation equipment does require certain skills—authors must be able to organise their thoughts and present them in a manner that will translate well into the written word. Also many organisations strive for total conversion to dictation systems and do not recognise that different kinds of work are more easily adapted to dictation than others. Reactive dictation—a response to a letter or completing the items of a form—is easier to learn than creative dictation.

Improvements

Despite this apparent unwillingness by many managers to adopt dictation machines as part of their daily routine, equipment has improved dramatically in recent years. The magnetic tape cassette which is available in different sizes and formats has become the predominant recording medium and has led to an increase in sound quality. Cassettes with electronic position marking are now commonplace and the incorporation of a microprocessor has improved ease of use and can provide valuable dictation management information.

Three types of equipment are

Group I is the slowest and there are few if any of these still available on the market.

Group II can transmit the image of an A4 sheet of paper in around three minutes. Group III transmits in one minute or less.

Prices for manual or "semi-automatic" Group II machines are in the region of £1,200-£2,300. Automatic Group II machines are priced between £1,300-£3,000 and Group III machines are available from £2,250.

Viewdata provides a method of transmitting limited size text messages. The advantage of Viewdata is its simplicity. With the attachment of a small adaptor virtually any TV set can act as a viewdata terminal.

Britain was the first country to develop a practical public viewdata system—Prestel. It has never fulfilled its early promise although it is used in some businesses for providing low cost access to large amounts of stored information to users at different locations.

The responsibility for fax communications standards rests with the Consultative Committee for International Telephony and Telegraphy (CCITT) which defines a number of machine groups.

they are best done in codes which represent different messages.

The last method identified by Buckley's Guide for transmitting text is microcomputers. "Microcomputers can perform a range of functions in the office—and acting like a telex terminal is one of them."

That can be particularly attractive to the smaller company that needs only occasional access to the telex network. A number of companies supply software packages and telex line interfaces which allow most well-known brands of microcomputers to link into the telex network like this.

Electronic mail

Although Telecom Gold, British Telecom's electronic mail service based on the international ITT Dialcom service, was initially designed for users with basic terminals to access the service, it also allows micro users with the necessary software to prepare and store long text messages "off-line" before accessing the service in order to cut down on telephone bills and avoid tying up valuable computer connect time.

The micro is probably going to be the most important future factor in text communications.

The cost of sending a letter

Comparisons in the UK for an average 150-word letter, assuming executive costs are between £10-12 an hour and typist costs at £5 an hour.

Writing out longhand		Shorthand dictation		Machine dictation	
Executive writing time—15 minutes	£3	Executive dictation	£1.00	Executive dictation	.70p
Typing time	£1.25	Typist shorthand note time (inc "travel")	.70p	Typist typing	.60p
Executive checking time	£1.25	Typing time	£1.25	Executive checking	£1
Stationery	.25p	Executive checking	£1	Stationery	.15p
Typewriter/written down	.10p	Stationery	.25p	Typewriter and dictation equipment	.18p
Costs, etc.	.10p	Typewriter, etc.	.15p	Office overheads	£3
Office overheads, average	£5	Overheads	£4	Postage	.17p
Postage	.17p	Postage	.17p		
Total	£10.77p	Total	£8.52p	Total	£5.80p

The output figures are based on studies made by the Dictaphone company among a cross-section of users, both before and after the installation of audio-dictation equipment.

Typing from longhand or from shorthand notes is taken at 10 words per minute on average and from audio dictation at 20 words per minute. Dictation to a typist is taken at an overall shorthand rate of 25 words per minute. This includes dictation at the typist's speed, pauses by the author for thought or to look up a reference and so on.

The figure also includes a small increment for the typist's time in going to the executive's office or desk. Typewriter and dictation equipment costs assume that the hardware is in reasonably constant use throughout all working days.

With shorthand typing, of course, the typewriter necessarily stands idle while shorthand notes are being taken; hence the higher figure in this column. Office overheads are calculated using estimates but the proportions between the three columns reflect the different levels of staff time involvement.

Source: Dictaphone Company.

currently available: hand-held or pocket machines; desk-top machines and central recording systems. The most notable change in pocket machines is the continuing reduction in size and a more streamlined design for greater ease of operation. Features such as automatic stop and start facilities as well as letter ending were usually sacrificed for slimmest and lightness but most new models are now able to let the transcriber know where a document ends and where any special instructions are located on a tape with a special electronic signal.

For managers who prefer to do most of their dictating in the office and who dictate at least three pages a day, a desk-top machine probably offers the best solution. Most models now include auto facilities as well as operation of tape movement and automatic cut-off after a few seconds' silence, as well as backspacing after each stop so that the author or transcriber does not lose the train of thought if a recording is interrupted.

Centralised dictation systems are a modern development from the traditional typing pool. For large offices, with numerous authors, centralised systems are an economical alternative to using separate desk-top units for each manager.

This is also a useful method of input to combined typing and word processing operations. Authors are connected to the

typing pool via the normal telephone network—a principle which has changed little from earlier centralised dictation systems. But higher quality reproduction can now be expected from most new models and dictation can be made from anywhere in the work by "phone" just as if it were a dictation machine.

Users also have the choice of auto-change tape cassette recorders or endless loop recorders. The latter are often more economical and efficient than cassettes, although once a recording is made it cannot be removed from the machine and filed. It is also often difficult to identify and locate high-priority dictation among all the other documents on a loop.

Convenience

In addition to providing authors with the convenience of being able to record from their desks when the necessity arises, centralised systems have taken on an increasing supervisory role to monitor the progress of a pool.

Systems can now calculate how much work is waiting to be typed; how long the first item in the queue has been waiting; the output of the various transcription stations and departmen-

tal usage. In fact, management information available through these systems is often claimed to be far better and more comprehensive than that provided by text-editing systems.

Voice-store and forward is a fairly recent technology which may soon become an alternative to traditional dictation systems. This can streamline the distribution of short inter-office communications to a large number of recipients by eliminating transcription of the dictated message to typing, proof-reading, copying and physical distribution.

Instead, the author records a message once and this is stored on computer media for later access by as many recipients as are designated. Equipment in the waiting message, which they listen to by phone.

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The Instant Office is available from the following Ergonom dealers outside London.

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Valuable aid to productivity

Dictation equipment

KAY FLETCHER

DESPITE all the advances in office automation, it is estimated that up to 60 per cent of business communications in Europe are still made in writing. A large proportion of executives have yet to discover the advantages of using dictation equipment with all its advantages in productivity and cost-saving.

The average 150-word business letter can be dictated in around 21 minutes, 17 per cent of the time it would take to write it. Some leading manufacturers of dictation systems have estimated that with standard forms of shorthand and transcribing, each letter despatched from the office costs at least £8 and could be a lot higher (see table).

A significant part of this cost is taken up by the actual process of dictation—interruptions such as phone calls, unexpected visitors and the inconvenience of having to read back shorthand to refresh the dictator's memory—all factors that waste time. In a head-to-head contest over productivity and cost-saving machine dictation is the clear winner.

But it cannot be ignored that

Office Equipment 7

Demand grows for better workplaces

OFFICE WORKERS are now demanding a greatly improved environment. There are at least two pieces of evidence of this trend. One is the emergence of facilities management as a discipline in its own right. The other is the changing face of many office interiors conceived as recently as the 1960s and 1970s.

Acoustics, lighting and ventilation are just three of the elements increasingly occupying the minds of facilities managers. In open plan offices, in particular, the location of computer equipment such as printers and the choice of insulation are critical to the control of noise.

A new report to be published soon by the National Business Equipment Survey, examining the views of senior and middle management, secretaries and clerical workers in the UK, shows that nearly one-third have registered company complaints about their office environment.

"With 30 per cent voicing complaints, the British can scarcely be labelled a nation that does not care about the way its offices work and look," says Jean Davis, industry analyst with NBEES.

"Above all else, they want furniture that is physically comfortable. This is far more important to them than having an office that simply looks good. But what really raises the tem-

perature of white collar workers is office interior design. Many are far from happy with the way their offices are laid out."

Those who work in the more traditional cellular style of office, one with four walls and a door and sharing with only a small number of people, tend to be the most enthusiastic about their working conditions. Around 43 per cent were "very satisfied" with the look of their offices and 54 per cent with the way they functioned.

Open-plan and screened offices are not so popular, with lack of privacy as the major grievance. Nearly 40 per cent complained about lack of privacy.

According to the UK consultants, Space Planning Services: "Open plan offices seem inevitably to suffer from acoustic problems, though these can be minimised if the design is carefully thought out and implemented."

Furniture properly deployed will break up the paths of sound and absorb its energy. Dividing screens contribute to this to some extent, though with diffraction, much sound energy travels over or around.

To be most effective, screens must be placed as close as possible to the source or the receiver. If they are some distance from both, the visual screening effect may be successful, but the acoustic screening will be negligible.

The office environment

AUSTAIR GUILD

However, there can also be a considerable discrepancy between the claimed performance of partitions and actual performance. "Results achievable in a laboratory may simply be impracticable on site," says Mr Charles of Bickfordike Allen Partners.

Ventilation systems are now being cited as an important source of many of the problems encountered with indoor air quality. According to Ms Jennifer O'Neill of Building Use Studies, writing in this month's issue of *Facilities*: "There is growing concern about the possible relationship between the environment created in energy efficient, high tech, air conditioned buildings and the health problems of occupants."

The other main culprit is the growing number of pollutants found in modern offices such as carbon monoxide, micro organisms spread by air conditioning systems and contaminants from the people themselves.

Office equipment, particularly photocopiers, is a possible contributor to indoor air pollution.

"Manufacturers monitor their products to ensure emissions are within prescribed exposure limits. In the main, the principal emission from copiers seems to be ozone. This rapidly decays to oxygen and the amount of gas generated and rate of decay are quite accurately predicted by manufacturers of the equipment."

"The area of difficulty may be the evaluation of 'acceptable exposure limits,' particularly if, as seems likely, symptoms of

illness can be triggered by small trace of organic compounds at very low concentrations individually combining and interacting causing a defence reaction within the body or other response."

The Health and Safety Executive has established a committee to review exposure limits and agree values. This committee consists of specialists, such as toxicologists, employers, industrial organisations and the trade unions.

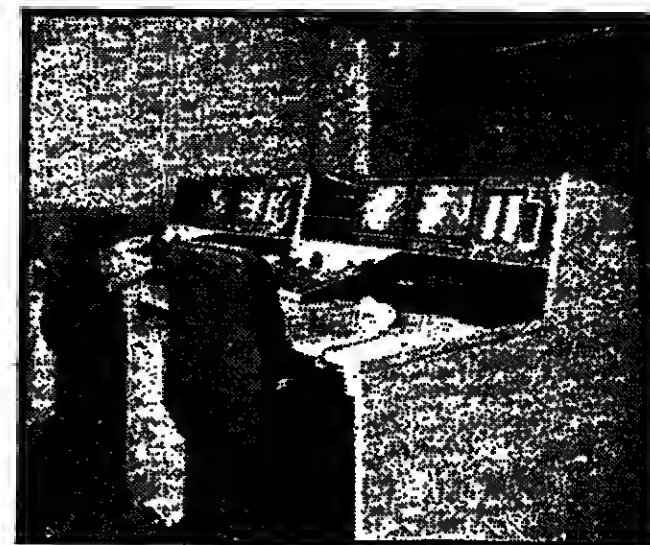


Jean Davis, industry analyst with NBEES: new report reveals extent of office design problems.

New desk range for dealer rooms

ONE of the difficult decisions facing office planners for the financial sector is the choice of desk systems best-suited to carry the advanced communications equipment. Until now, most dealer rooms have been equipped with expensive, purpose-built desk systems.

Interact have just introduced a new, flexible concept as an alternative: a standard range of multi-module dealer desks, with interchangeable components, adapted from the company's Transform II system furniture.



PROFILE: RAILEX

Optimism in filing sector

THE INFLUX of paper records as a result of computer print-outs and the increasing use of office copiers is good news for filing cabinet makers who provide new ways to store it all.

With more than 70 suppliers in the UK market alone, the mood in the filing industry is one of cautious optimism, says Mr Bryan Wilson, chairman of Railex Filing Systems, whose clients include ICI, Unilever, British Aerospace, the clearing banks, the Ministry of Defence and most of Britain's local authorities.

Despite predictions several years ago that the anticipated "paperless office" would decimate the filing industry, the opposite has happened, says Mr Wilson, as the increasing use of computers has led to a rising demand for specialised filing systems.

Railex is busier than ever, with its three factories (two in Southport, Lancashire, and one in Manningtree, Essex) all working at full capacity.

The North country family business was begun in Rochdale in 1908 by Frank Wilson and is run today by six of his descendants.

Railex purchased the Elite steel filing cabinet company in Essex in 1979. It continues to produce the successful brand of Elite drawing office equipment as well as manufacturing the Railex steel cabinets which hold the familiar Railex hook-on



Mr Bryan Wilson of Railex: busier than ever

lateral filing system which was developed in the 1950s but is still widely used today.

More recent Railex developments include the Rotascan range of filing carousels and circular storage systems, plus equipment for floppy disk, fiche files and security storage.

An important market for Railex is the printing industry with the provision of customised filing systems for artwork, film and printing plates. The company, which formerly traded under its original name of Frank Wilson Filing, is today committed by articles of association to remain a private company. It has recently set up a new London sales centre and is winning increasing export orders from Europe and the Middle East. Meanwhile, substantial investments in plant and machinery have been made at the Manningtree factory in the past year.

Mr Bryan Wilson, who served two terms as president of the British Equipment Trade Association, affirms: "There's plenty of business available in UK manufacturers in our industry for those who are prepared to put in the effort to go after it."

M.W.

PROFILE: GRUNDIG



Herr Guenter Schroeder (left) and Mr Bob Adams of Grundig

New moves in word processing market

MORE THAN 30 per cent of the world dictation equipment market is concentrated in only three areas—North America (50 per cent); and Britain and West Germany, which together have close to 30 per cent, with Germany being the slightly larger market of the two, according to Grundig.

With 30 years' experience in the market, Grundig commands around 50 per cent of West Germany's desk-top and portable dictation machine sector. It is now making a determined bid to increase its share of the UK market, where Philips Business Systems dominates the desk-top scene.

In Germany, Philips, together with a consortium of banks, took over the majority of Grundig shares in April, 1984. Then, Mr Hermann Koning of Philips became the new Grundig president with two major tasks in restructuring Grundig. First, by cutting costs and streamlining production and, second, by diversifying the product range to include more professional electronics (video and testing equipment, for example), plus more office technology products and a strengthening of the home electronics section.

Mr Guenter Schroeder, who is responsible for the office machine division, is optimistic about Grundig's new move towards word processing using easy-to-operate "intelligent" typewriters, linked with Grundig's Steno Cassette 30 system, the world's first mini indexed cassette system of which more than 1.5m machines have been sold. Grundig guarantees to maintain its well-tried Steno Cassette system for at least a further 10-year period.

Following intensive research into word processing input and output systems, Grundig is aiming for a package that is "as easy to operate as a mechanical or electric typewriter, but which has all the intelligence of a very sophisticated word processing system."

Mr Schroeder. The typewriter price will be very competitive—somewhat lower than the cost of a standard office electric machine. Mr Bob Adams, Grundig's marketing manager in Britain, estimates that one-in-three desk-top machines in the UK is a Grundig. The company, which has new headquarters at Rugby, reports an increased market share in the UK in the past four years.

Thicker tape

Grundig's Steno Cassette 30 system uses tape that is a third thicker than other cassette tapes, giving unique toughness and longer life, as well as allowing desk-top machines to be rewound 30 times as fast as normal play-back speed.

Mr Adams is optimistic about Grundig's versatile new 2080 pocket-size recorder which allows users to move away from the desk, but keep all the technical refinements of a professional dictating machine.

Most of Grundig's equipment in Britain is sold through a network of 180 dealers, with the exception of machines supplied to Government departments. Grundig will shortly be introducing the Teleboy 3003 telephone answering device into the UK market—this equipment can act as an electronic mailbox, allowing managers, for example, to dictate reports by phone after normal working hours.

M.W.



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applications, upgrading the quality of data and speeding its flow.

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All told there are 15,000 different NEC products that serve people in over 140 countries. Computers, communications systems, semiconductors, and myriad combinations thereof.

NEC

Office Equipment 8

Growing range of exhibitions to guide equipment buyers

Key sources of information

WITH MORE than 60 international shows scheduled within the next 12 months for the office equipment industry—plus hundreds of smaller, regional exhibitions—manufacturers and suppliers are often at a loss as to where best to feature their products.

The potential buyer, too, is faced with the difficult decision as to which shows will best suit his requirements. But high on the list of important international exhibitions is the Hannover Fair which this year attracted a record-breaking 850,000 visitors from 120 countries.

More than 7,000 companies were featured at the eight-day event which is regarded as the major European exhibition for information technology. Not surprisingly it is also the launching point into Europe for many new office automation products from the U.S. and Japan.

The fastest-growing section of this "fair of fairs" is the special division, CeBIT, designated to office automation.

Rapid growth

Among this year's 1,300 exhibitors there were a host of manufacturers launching new copiers and computers—and such is the demand for exhibition space that next year's CeBIT will become a show of its own (March 12-19), four weeks before the rest of the Hannover Fair.

New figures from the National Business Equipment Survey in the UK suggest that exhibitions remain an important source of information used by 22 per cent of buyers of business equipment for large companies. Although an even wider source of information used by buyers is through dealer demonstrations (28 per cent), visits by representatives of manufacturers (28 per cent) and the office equipment press (42 per cent).

The next major exhibition in the UK for the industry is the International Business Show, IBS, at the National Exhibition Centre, near Birmingham (see panel on this page).

Other events featuring office equipment suppliers and services include the following:

London, 1985-86
DEC User Show, Barbican, Oct. 15-17, 1985 (details from EMAP,

01-537 3699). International Exhibn. of Technology, Equipment and Services in Banking, Insurance and Finance, Barbican Centre (details from ITF on 021-705 6707).

Cleaning and Maintenance Exhibition, Europa-Clean, Barbican Centre, Oct 29-31, 1985 (details on 0923 770000).

What Telephone and Communications Show, Novotel, Nov. 17-19, 1985 (details from Martin Ashenden, 01-923 3382). Computers in the City Exhibition, Barbican Centre, Nov. 18-22, 1985 (details Online, 01-868 4466).

Video User Show, Barbican Centre, January 29-31, 1986 (EMAP, 01-537 3699).

DEC and DEC Compatible Exhibition, DEXPO Europe, Olympia, March 4-6, 1986 (Exposcon, 01-532 8256).

FC Trade Show, Barbican Centre, March 5-7, 1986 (details, EMAP, 01-537 3699).

Electronic Pre-Press (electronic page make-up, text-handling and digital imaging technology), Olympia, March 24-27, (details on 01-773 0350).

Informational Technology and Office Automation Show (Info '86), Olympia, March 25-27 (B.E.D. Exhibitions, 01-547 1001).

Consumer Electronics Show (CES), Earls Court, April 20-23, 1986 (Andriy Montomery, 01-495 1951).

Int. Cleaning and Maintenance Trade Fair, Olympia, April 20-May 1, 1986 (details: RAI Gebouw BV, 01-437 3175).

Int'l. Contract Furnishing and Interior Design Exhibition, Olympia, May 11-15, 1986 (details, Westbourne, 01-868 4499).

Services to Commerce and Industry Int'l. Exhibition, Kensington Centre, June 17-19, 1986 (details, Network Events, 0280 815235).

London Business Equipment Show, Earls Court, October 21-24, 1986 (B.E.D./BETA Exhibitions, 01-495 6229).

Birmingham, 1985-86
International Business Show, National Exhibition Centre, Oct. 21-25, 1986 (see panel, more details on 01-405 6233).

CAD/CAM International Show, April 8-10, 1986, National Exhibition Centre (details, EMAP, 01-537 3699).

Int'l. Heating, Ventilation and Air Conditioning Show

(Hevac), National Exhibition Centre, May 11-15, 1986 (ITF, 021-705 6707).

Communications Equipment and Systems Exhibition and Conference, May 13-16, 1986, National Exhibition Centre (ITF, 021-705 6707).

Other forthcoming exhibitions in the UK (outside of London and Birmingham) include:

Business Performance and Telecommunications Exhibition, Met. Exhibition Hall, Brighton, October 20-23 1985 (details on 0689 78555).

Computer Equipment Exhibition, Met. Exhibition Hall, Brighton, May 13-15 1986 (details on 0428 724560).

Communications in Business Exhibition, Scottish Exhibition Centre, Glasgow, November 18-22 1985 (details on 031 225 5486).

Business to Business Exhibition, Belle Vue, Manchester, November 10-13 1985 (details on 01-729 0677).

West Germany
Systems '85, Munich (Computers and Communications International Trade Fair, with 1,000 exhibitors from 19 countries), October 28-November 1 1985 (details in UK from Overseas Trade Show Agencies, 01-486 1551).

Hannover Fair, CeBIT, World Centre for Office and Data Technology, March 12-19 1986

(details in UK from Deutsche Messe und Anstaltungen, 01-631 2191).

Office Equipment Exhibition, Büro '86, Munich, May 13-15, 1986 (details in UK on 01-486 1851).

Computer Equipment Exhibition, Wiesbaden, September 23-25 (details in UK on 0428 724860).

France
This year's SICOB (International Office Equipment Show) in Paris has just ended, but details of the next SICOB event are available in the UK on 01-439 3964. Other forthcoming events in France include:

Data Processing, Office Equipment and Automation Show, Bordeaux, October 8-10, 1985.

Netherlands
Computer Exhibition, Comdex, Amsterdam, October 15-17, 1985.

Information Technology and Business Communications Exhibition, Infocom, Amsterdam, November 26-29, 1985.

Italy
Office Furniture Exhibition, Torino Office, Turin, May 28-June 1, 1986.

Ireland
Business Equipment Show, Dublin, October 15-18, 1985.

Spain
SIMO, General Office Equipment Show, Madrid, November 15-22, 1985.

SEMINARS FOR EXECUTIVES

BUSINESS executives at 15 locations throughout Britain are being invited to a series of briefings on the theme of office automation. The campaign, entitled "Britain has IT: successful office automation," are being jointly run by the Department of Trade and Industry and PA Management Consultants.

The briefings run for two days in each location. The first session is for decision-makers, "has been carefully planned to ensure top executives gain maximum benefit from the investment of their time," says Mr Colin Lescan, campaign chairman and head of PA's office automation division.

"The briefing will provide guidance on how to maximise the business opportunities offered by office automation."

The second briefing "will help those attending achieve the objective of successful office automation," says Mr Gordon Ross, project manager.

The key challenge now facing companies is to close the implementation gap. This gap is between the potential of today's technology and the ability of an organisation to use it.

Locations for the briefings include: Southampton, Manchester, Edinburgh and Aberdeen (all arranged for this month); Leicester, Leeds, Newcastle, and Cambridge (during November); Gatwick, Surrey (December); London and Bristol (January 1986); Birmingham, Glasgow, Sheffield, and a return visit to London (all in February 1986). For more details, telephone 01-235 9088.

Sweden
Data-Office Infoprint, Stockholm, now on until October 2. Computer Application Programmes Exhibition, Stockholm, November 12-14, 1985.

Switzerland
Office Equipment and Data Processing Exhibition, BUFA, Basle, October 1-5, 1985.

International Ergonomics Exhibition, Ergodesign, Montreux, October 21-23, 1985.

U.S.
NOFA, Business Equipment Show, Chicago, October 2-4, 1985.

INFO, Information Management Exhibition, New York, October 14-17, 1985, details in UK on 01-591 5051.

Info-Communications and Business Equipment Exhibition, Dallas, January 7-9, 1986.

National Stationary Show, New York, May 18-21, 1986, (details from George Little Management Inc., New York).

BRITEC, British Information Technology Exhibition, Wakefield, U.S., July 14-16, 1986 (details in UK on 042129 3223).

Australia
Computer and Office Automation Convention and Exhibition, Adelaide, October 15-17, 1985.

NOPEX, National Office Products Exhibition, Sydney, March 12-15, 1986.

Middle East
Israfurniture (furniture for home and office), Tel Aviv, Israel, October 25-November 4.

Middle East Computer Show, and Office Technology Show, January 13-16, Bahrain (details in UK on 01-496 1951).

Office Electronic Communications Show/Computer Show, both in Riyadh, Saudi Arabia, March 9-13, 1986. (Details in UK on 01-496 1951).

Far East
Computer Communications Exhibition, Singapore, December 2-5, 1985, details in UK on 01-568 4466.

S.E. Asia Business Show (Infotechasia), Singapore, April 9-12, 1986 (details in UK on 01-496 1951).

The Business Equipment Association in the UK has arranged joint venture terms with certain major overseas exhibitions (details on 01-505 6233).

NEW LOOK AT IBS

THIS YEAR'S International Business Show — the UK's fifth biennial showcase for a £5.5bn a year business equipment industry — will be a shorter event than in previous years and aimed at a more senior management audience.

The five-day show of the National Exhibition Centre, near Birmingham, will take place from October 21-25.

This year's event is jointly organised by BETA Exhibitions, the exhibition company of the British Equipment Trade Association and B.E.D. Exhibitions. Both companies also collaborated to present last year's London Business Equipment Show at Earl's Court.

Mr Alan Gash, managing director of B.E.D., says that research at two recent major business equipment shows reveals that the top three areas of interest to visitors are: 1. computers; 2. word processors; 3. systems furniture.

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European market forecasts

(Figures in \$m)

	1985	1986
Word processors	618	610
Electronic typewriters	1,088	725
Personal computers	1,581	2,635
Software/servers	991	1,330
Maintenance	930	1,064
Total	5,578	6,364

Source: Wharton Report.

Market prospects

CONTINUED FROM PAGE ONE

office automation environment. The major influences upon buying policies, according to Wharton's analysis, are:

Compatibility with existing equipment 63 per cent
Reliability 52 per cent
Expandability 46 per cent

Ease of use/..... 40 per cent
Cost factor 40 per cent

Developments which are likely to occur in the short-term in Europe will include:

● An increase in networking — and if anything is going to cause technical problems in the headlong rush to automate offices, it is this area.

● The organisational aspects of office automation must begin to receive greater attention. For example, electronic mail, electronic filing, electronic calendars and so on, all require a discipline from users that typically does not exist, particularly from a level of managers who are used to "doing their own thing" as far as personal organisation is concerned.

● The number of unhappy users will increase. Wharton identifies them as those who failed to analyse their requirements, site their objectives and plan their implementation, plus those who neglect training.

The decreasing costs of computer power and the increasing costs of people tempt management to buy more and more technology. But, as the Wharton report warns, the major cost of the organisational cost — is often ignored, with the result that in office automation projects, "the good get better and bad get worse."

Obvious cost components include the expense of installation and training, but less obvious elements are the cost of linking personal work stations to each other and to central resources. For most users the least obvious cost of all is the need to make sure a good organisation and good practices are in place before automation is even contemplated.

*Wharton Market Reports, 32 Eton Street, Richmond, on Thames, Surrey, TW9 1EE.



Mr Richard Palmer, director-general of the British Equipment Trade Association, encouraged by bigger order books

Mr Keith Wharton, managing director of Wharton Information Systems, predicting an annual outlay of £3bn on PC systems in the UK by the end of the decade

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EURONOTES AND CREDITS

Breakthrough for Hungary in Eastern European borrowing

HUNGARY is to become the first country in Eastern Europe to organise a new-style note issuance facility in the Euromarkets, writes Peter Montagnon in London.

The facility forms part of a \$400m, seven-year loan package announced at the weekend by Bankers Trust, First Chicago and Dai-ichi Kangyo Bank.

It is regarded as a breakthrough in East European borrowing because previously Comecon borrowers have steadfastly resisted Euro-note facilities. They are worried that such deals might leave them vulnerable if the short-term loan market dried up, as it did for many countries after the Polish debt crisis.

Paradoxically, Hungary seems to regard its new facility as an insurance against just such an eventuality. It was nearly forced to re-schedule its debts in 1982 after a sudden withdrawal of short-term deposits in its National Bank by a number of lenders, including the Soviet Union.

Bankers say the note issuance facility, which amounts to \$150m, could protect Hungary against similar events in the future because it is backed up by standby bank credit. The terms on the deal are unusually generous for the Euro-note market, with a high facility fee of 17% basis points and a maximum yield on the Euro-notes of 32% basis points.

Also included in the package are a \$150m U.S. domestic bankers' acceptance facility with a commission of 1/4 per cent. It is a three-year facility but its maturity can be extended and banks that leave it will be asked to make up the difference by increasing their commitment to another portion of the package.

The final portion is a \$100m medium-term loan carrying a margin of 1/4 point for the first three years, rising to 1/2 point thereafter. Those are much finer terms than Hungary

has previously received and some bankers said there might be resistance to the introduction of a 1/4-point element in the deal's pricing.

Hungary is said to have sought such fine terms because it wants to narrow the disparity between itself and other Comecon borrowers such as Czechoslovakia and Bulgaria, whose latest credit bore a margin of just 1/4 point. It is also planning to prepay about \$300m in other debt so that the new deal will add only \$100m to its total borrowing.

Despite its fine terms, the deal has only been launched after careful sounding in the market and a lead-management group is expected to be assembled with relative ease. However, general syndication will be more of a test of the market. That is important, because Hungary has some \$2bn of debt maturities to refinance next year and is therefore expected to continue to be a regular borrower.

More details of another East European deal are meanwhile emerging. Romania's \$150m credit, for which Barclays will be the agent, should be ready for general syndication soon. Terms are to include a rare option for lenders to put up funds at a margin over U.S. prime rate of 1/4 point for the first two years, rising to 1/2 point thereafter. There will also be a fixed-rate option in Swiss francs and D-Marks.

The week's other main news was a \$800m "global" commercial paper programme for Svenska Handelsbanken for which Merrill Lynch and Shearson Lehman will be dealers. That is one of the largest programmes to be launched in this growing sector of the market and it will allow the borrower to issue paper in both the U.S. domestic market as well as overseas. It is part of a growing trend towards commercial paper programmes in the Euro-market that carry no previously agreed backstop in the form of a commercial bank standby credit.

INTERNATIONAL BONDS

Enthusiasm wanes for UK floaters

THE UK floater once again took centre stage in the Eurodollar bond market last week when two straight bonds repackaging chunks of the floater were launched, writes Maggie Urry in London.

But after an initial burst of enthusiasm the two deals - called BECS and MICS - were bid outside their 1 1/4 per cent fees by Friday, not helped by a market suffering from dollar-shock.

The idea looked fine. What could be nicer than UK-backed paper paying a yield around 40 basis points more than U.S. Treasury securities? It soon became apparent to investors, however, that the credit is not the UK but the arrangements of the swap from floating to fixed - Barclays Bank and Prudential Global Funding, with a Cayman Islands company thrown in as well.

Further, the issues, at \$100m each, are unlikely to prove liquid instruments. And what happens when the bonds mature after three years? That date had to be set because the UK can call the floater after three years. But it may not. Investors are guaranteed a redemption at par by banks in the deal. The floater would have to be sold to pay the bond holders.

Some investors were also concerned by the lack of gross-up provisions in the event of the imposition of withholding tax. While such

a tax is highly unlikely, investors such as the Swiss are keen to see provision made for the full payment of interest just in case.

The effect on the floater has been to put it out of the realms of a normal FRN. The price rose to 99.85 by the weekend. Apart from the two public issues, many banks had been performing the same exercise privately while others had bought more of the floater, hoping to bring further repackagings. The amount of the floater left to trade actively has shrunk substantially from the original \$2.5bn size.

The price might fall back again if some of these banks gave up attempts to do more repackagings - only then would it become attractive to do it again. But for the UK's generosity in giving three years' call protection, instead of the one year commonly granted, this would not have happened.

Other Eurodollar deals fared little better last week. The fall in the dollar after the Group of Five meeting the previous weekend left investors reluctant to buy dollar bonds. While the New York market had a reasonable week, the Euro-dollar market slipped, worsening the yield relationship between the two.

That did not seem to deter a number of synthetic managers from bidding, sometimes aggressively,

EUROBOND MARKET TURNOVER (Turnover in \$m)				
Primary Market	Secondary Market	Conv	FRN	Other
U.S.	2,518.3	284.9	22.5	1,118.7
Prev	1,614.4	2,252.8	2,272.2	108.8
Other	900.3	0.0	0.0	142.2
Prev	900.3	0.0	1.3	61.5
Secondary Market				
U.S.	12,982.6	1,870.1	12,852.8	1,952.2
Prev	14,982.3	2,582.8	12,228.1	1,544.4
Other	3,202.5	42.8	320.1	1,522.9
Prev	3,202.5	42.8	320.1	1,522.9
Capital Eurodollar				
U.S.	8,444.7	24,284.8	33,292.2	
Prev	11,612.3	25,108.7	34,317.2	
Other	3,728.5	2,910.1	6,954.5	
Prev	3,340.5	2,822.3	6,988.2	

Week to September 23 1985 Source: AIBD

for deals. "Slow" would be an exaggeration of the pace at which bonds were moving. But for lead-management support, many of last week's issues would have been floundering. A syndicate manager who kept on the sidelines said: "I have spent the whole week saying 'no'."

The exception to the tale of woe was Toyota Motor Credit's issue launched on Friday. That is from the U.S. company and is not guaranteed by Toyota in Japan, but was given an AAA rating by Standard & Poor's. It is Toyota's first Eurobond issue and it held comfortably within the fees.

China has made its first dollar

bond issue since the 1949 revolution. But the \$150m issue is in the "shogun" market, not the Eurobond market, so avoiding any difficulties over previous dollar issues now in default.

Crédit Commercial de France's wisdom in bringing a floater issue with warrants to buy an Ecu bond two weeks ago was revealed when the dollar started to slide. The warrants shot up to around double their \$36 issue price. Another such deal led by CCF but for Union Bank of Norway, launched on Friday, may not prove itself so rapidly.

Investors looking for diversification away from the dollar are spoiled for choice. The D-Mark market is offering a record DM 5.21bn in new issues in October. The amount stunned traders initially, while some bankers muttered that the old capital markets subcommittee should be brought back.

The calendar could be absorbed satisfactorily if the right names came at the right prices, if the dollar kept falling and persuading investors to buy D-Marks, and if interest rates continued to fall, dealers said last Friday.

Only one of the deals is a floater - DM 500m worth with Renfe, the Spanish railway company, the rumoured borrower. Among corporate borrowers expected are Embart, Dow Chemical, McDonald's, Nestle

and Unilever. The International Finance Corporation, part of the World Bank, and the EIB are also rumoured, as are some Austrian and Australian names, Finland and Sweden.

Bankers were intrigued by the news that a Eurodollar issue with warrants to buy D-Mark bonds is due. Perhaps CCF's Ecu idea is spreading.

The Australian Eurobond sector duly reopened, after a two-week rest, and promptly overbid the new issues again. BMW's deal, coming first, was able to accelerate away from the lights. The others were trailing behind with some stalled on the starting line.

Soon investors will have another currency to diversify into - the lira. The Italian Treasury gave its blessing to the market last week and a deal should be coming soon. Coupons roughly around the 14 per cent level might be available.

The Swiss franc foreign bond market seems not to have benefited from the dollar's fall, but it is holding its own anyway. After the R.J. Reynolds issue opened at its 9 1/4% issue price, and then rose to 9 3/4%, the 10-year deal for Portugal paying a 6 per cent coupon traded at 9 1/4% compared with its 10 1/4% issue price. Coupons are being pushed lower with 5 1/4 per cent set for Pacific Gas and indicated for Japan Highway.

Euroaira market set to start up

By Alan Friedman in Milan

THE ITALIAN Government has authorised the opening of a Euroaira bond market, paving the way for the issue of lira-denominated foreign bonds.

The first borrower will be the European Investment Bank, which today is expected to launch a L100bn (\$54.8m) five-year fixed-interest bond carrying a 13.5 per cent coupon.

Istituto San Paolo di Torino is to lead-manage the issue, which will be followed by other Euroaira bonds for Ericsson, Ford Europe, and Becham of the UK.

The Bank of Italy is expected to allow one new issue a month, which suggests a possible total of between \$500m and \$800m of issues in the first year of operation.

Dr Gianni Zandano, chairman of San Paolo, described the decision to start a Euroaira market as "a very important" step which will open the way to the internationalisation of the lira.

The authorisation of a Euroaira bond market follows pressure by a number of foreign companies operating in Italy that want to obtain medium-term fixed-rate money at less than domestic lira rates. The domestic Italian corporate bond market is small and offers a negligible secondary market.

Foreign investors have been flooding into Italian equities in the past year, with U.S. and British investment on the Milan bourse now thought to total at least \$1.5bn. The Euroaira bond market will offer another line of investment instrument. The opening of a Euroaira bond market is seen by top Italian monetary authorities as providing further evidence of the stability of the Italian economy.

The Euroaira market will be open initially only to non-resident investors. The bonds will be in bearer form, and minimum maturity will be five years.

MAS issue poised for launch

BY WONG SULONG IN KUALA LUMPUR

MALAYSIA's biggest ever stock-market launch gets under way today with Malaysian Airline System's offer of 100m shares at 18 ringgits each.

The issue, representing 30 per cent of MAS's capital and raising 180m ringgits (\$77m), will be a timely boost to the Malaysian stock market, which has sprung back to life in the past month after a series of measures by the Government aimed at boosting activity.

Raja Mohar, MAS chairman, said

the share sale was the first step in the privatisation of MAS. The Government will eventually reduce its 90 per cent stake in the airline to 30 per cent.

The Government would continue to control the airline, appointing six directors, including chairman, and managing director, and deciding fundamental policies.

After the public offer, MAS capital would increase to 350m ringgits from 70m ringgits. Of the 165m shares in issue, 52.5m would be for

public subscription, 35m reserved for Malays and 17.5m for the airline's 10,700 staff.

MAS, which began operations in 1973, made a record pre-tax profit of 134m ringgits for the year ended June 1985. It expects a setback for 1985-86.

After a drop in earnings from the domestic routes, especially the East Malaysian sector, net profits might dip to 100m ringgits for this year, the airline says. A gross dividend of 8 cents is promised.

Gulf Canada bids for rest of Abitibi-Price

BY BERNARD SIMON IN TORONTO

GULF CANADA has offered to buy out minority shareholders in Abitibi-Price, the Toronto-based newsprint and forest products producer, in a sequel to the recent acquisition of a controlling interest in Gulf by Olympia & York.

Gulf, which already owns 84 per cent of Abitibi, said it would pay C\$65m (\$69.8m) or C\$21 each for the 4.5m shares not already controlled by Olympia & York.

Olympia, a private property group controlled by the Reichmann family, sold most of its 53 per cent interest in Abitibi to Gulf to help pay for its purchase of the oil company in August from Chevron Corporation of San Francisco.

The offer price is the same as Gulf paid for the bulk of Olympia's interest in Abitibi. Olympia indicated earlier that it planned to give Abitibi minorities an opportunity to sell their shares.

These Bonds having been sold outside the United States of America and Japan, this announcement appears as a matter of record only.

New Issue

September 1985



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Banque Bruxelles Lambert (Suisse) S.A.

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Bankers Trust AG

Bank Heusser & Cie AG

Bank Künzler AG

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MANUFACTURERS HANOVER LIMITED

MELLON BANK

MITSUBISHI FINANCE INTERNATIONAL LIMITED

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SPAREKASSEN SDS

TOKAI INTERNATIONAL LIMITED

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16th April 1985

William Hall reports on the latest mega-dollar takeover in the U.S. food industry

Philip Morris bids to lower tobacco profile

brands in many repeat-purchase segments. We use many of the same distribution channels; the combination should further strengthen our relations with the trade."

gain for UCB

major divisions improved.

gain for UCB
overall in 1985 to match

major divisions improved.

* Not yet priced. † Fixed terms. ** Private placement. ‡ Convertible. † Floating rate note. ¶ With equity warrants. § Dual currency.
 ☉ With bond warrants. (a) 1/8% over 3m Libor. (b) 1/8% over 6m Libor. (c) Registered with U.S. SEC. (d) Additional 100m ECU Tap.
 (e) 1/16% p.a. over 3m Libor. (f) 1/8% over 3m Libor. (g) Part paid. (h) in Tokyo domestic market. (i) 3 b.p. over 3m Libor.
 Note: Yields are calculated on ARB basis.

August, 1985

UK COMPANY NEWS

Securiguard forecast 'far too optimistic'

Securiguard Group, a USM company which has been expanding rapidly in the security industry since it joined the market in 1983, has announced a half in its growth. The chairman, said that brokers' forecasts of a £1.4m profit for the year were now far too optimistic and he was expecting a similar profit to last year's £821,000. The company's share price fell 45p to close at 100p on Friday night.

The company's problems, he continued, had arisen from the unforeseen difficulty of integrating the newly-acquired Consolidated Safeguards into the main company.

"After we bought Consolidated we tried to integrate it too quickly—in the space of about two months. Unfortunately trying to fit an extra 800 people into our control centre in Holborn created unexpected staffing difficulties," Mr Baldwin explained.

"One has to admit some management fault in this. The root of the problem was that our management methods were different

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether the dividends are interim or final and the sub-divisions shown below are based mainly on last year's timescales.

TODAY

Interim: Amari, Arbutnot, Japs Growth Fund, Amcilla, Bio-Isotopes, Charnell, Early & Wint, Group Lotus, Inchope, William Jacks, Lamont, Miles 33, P.M. Frichard Services, Rugby, Fordham Cement, Sandhurst Marketing, T & S Stores, TR

to those that the Consolidated staff were used to.

In the year to October 28, 1984 pre-tax profits amounted to £821,000 on a turnover of £12.4m. At the half-year stage turnover was up 73 per cent at £2.7m and pre-tax profits 38 per cent at £554,000.

Consolidated was acquired for

FUTURE DATES

Interim: Amari, Arbutnot, Japs Growth Fund, Amcilla, Bio-Isotopes, Charnell, Early & Wint, Group Lotus, Inchope, William Jacks, Lamont, Miles 33, P.M. Frichard Services, Rugby, Fordham Cement, Sandhurst Marketing, T & S Stores, TR

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Further growth at Lorlin Electronics

Lorlin Electronics, the USM quoted designer and maker of switches and connectors, reported further growth in the first half of 1985. On turnover up by 6 per cent from £2.02m to £2.13m, pre-tax profits increased to £435,000 against £383,000, an improvement of 11 per cent.

Directors say that margins were maintained despite lower deliveries for part of the period. Since June, however, both deliveries and orders have increased. The Sussex-based company now has a record order book and is recruiting more staff.

It is expected that the trends will continue through the second half and that results will be significantly better than those being reported.

Exports continue to account for 40 per cent of output and show signs of steady growth. Further big orders were secured from France, Germany and Austria but significant growth was seen in the U.S.

The tax charge was £160,000 (£150,000), leaving attributable profits at £275,000 (£233,000).

From earnings per 20p share of 5.31p (4.67p) the interim dividend is doubled to 1p. Last year the total payment was 1.5p.

"Profits should however be substantial," he added.

ATA Selection (Section: Paper, Printing & Advertising). Aberdeen Stock Houses Group (General & Catering). Barrack Mines Ltd (Ore-Australia). Bradstock Group (Insurance). Central Holdings (Paper, Printing & Advertising). Dean Park Hotels Group (Hotels & Catering). Ecobric Holdings (Deferred shares (Industrial)). Malaysia 101 Loan Stock 2009 (International Bank and Overseas Government Securities). Nationwide Building Society (Savings). Noble and Lund (Engineering). Sapphire Petroleum (Oil & Gas).

Interim: Amari, Arbutnot, Japs Growth Fund, Amcilla, Bio-Isotopes, Charnell, Early & Wint, Group Lotus, Inchope, William Jacks, Lamont, Miles 33, P.M. Frichard Services, Rugby, Fordham Cement, Sandhurst Marketing, T & S Stores, TR

Associated Energy shares fall on year-end warning

BY FRANK KANE

SHARES in USM quoted Associated Energy Services, building, environmental and catering services group, fell sharply on Friday on the announcement that the company would "at best break even" in the current year, which ends today.

Mr Richard Gillett, who takes over as managing director from chairman Mr Paul Kowlett, said that there has been a marked deterioration in the group's trading position since the interim results last June, which showed pre-tax profits of £203,000 against £218,000. AES shares closed at 88p on Friday, down 12p.

Mr Gillett blamed two factors for the profit slump. The building and environmental services division had failed to match cuts in government spending which affected five measured term contracts.

These were all related to property service agency work on military sites, which failed to achieve levels of turnover indicated in the original invitation to tender. These five contracts have now been terminated, with unspecified write-offs.

The second reason for the downturn was the Taylor Freezer

subsidiary, a distributor of ice cream and milk shake machines, acquired just over a year ago at a cost of £823,000. Mr Gillett said that the offshoot had suffered a sharp setback due to the impact of adverse exchange rates earlier in the year when the company ordered its machines from the U.S. The bad summer weather had also affected sales.

In the light of these developments, the company is taking remedial action. Apart from Mr Gillett's appointment as managing director, the group has appointed Mr Martin Smith as finance director, and he has also become company director in place of Mr C. B. Dunn, who has resigned from the board but will remain with the company.

Mr Gillett said that despite the setback he was confident that the group could be turned round over the next 12 months. The board has undertaken a stringent review of all operating costs and efforts are being made to reduce costs and to cut the level of group borrowings.

In the 1983-84 year, bank overdrafts and loans came to £950,000, and the company made pre-tax profits of £435,000 on turnover of £3.28m.

Jorgensen margins held

A 10 per cent increase in both turnover and pre-tax profits is revealed by Jorgensen Jorgensen Packaging, USM-quoted manufacturer of plastic and glass containers for the first six months of 1985. And the directors expect satisfactory results in the second half of the year.

Turnover expanded from £11.5m to £12.6m while the pre-tax profit came up from £1.1m to £1.2m. The directors say the group's injection moulding company

contributions were also made by other subsidiaries.

Prospects in the U.S. for the related company DTC continue to be encouraging, yet slow to materialise, the directors state, while the costs incurred in developing this business being regarded as a necessary and continuing investment.

After tax of £262,000 (£210,000) earnings per share are shown as 4.08p (3.5p) and, partly to reduce minority, the interim dividend is increased to 1.25p (1p) — last year's final was 2.5p.

Eucalyptus down by £1m

Turnover of Eucalyptus Pulp Mills advanced from £11.5m to £12.6m, but pre-tax profits fell to £1.1m from £1.2m in the first six months of 1985, compared with £3.5m previously.

The directors of this sulphate pulp manufacturer consider the group's performance as creditable, but as it is unlikely that any price rise can be expected during the year, the level of sales since the end of the first half is encouraging, and the wholesale order book shows an acceptable volume increase.

Trading profits amounted to £2.4m (£3.5m) and pre-tax profits were struck after a £172,510 (£164,583) provision for unrealised exchange losses.

The charge, of £281,611 (£420,221), minorities £137,884 (£201,095) after which earnings are shown as 48.1p (72.9p) per share.

COMPANY NEWS IN BRIEF

WORDFLEX INFORMATION Systems reports marginal increase in pre-tax profits, up from £310,000 to £335,000 for the six months to June 30, 1985. Turnover was also ahead from £21,000 to £22,300. After tax of £209,000 (£206,000), stated earnings per 50p share were 5.4p against an adjusted 5p. There is a 0.5p interim dividend (nil). The directors point out that earnings are not generated in an even flow throughout the year — the second half is traditionally stronger.

CHEKPOINT EUROPE a USM quoted distributor of electronic security tags and safes, reports a fall from £228,000 to £118,000 in pre-tax profits for the year to March 31, 1985. Sales were higher, however, at £5.2m compared with £3.34m. Mr William Nathan, the chairman, says the company will have improved results in the coming year.

COMMERCIAL BANK OF WALES, which became a public company in April last year, has announced a one-for-five rights issue at 25p. The issue, which is not being underwritten, will raise £1m before expenses and allow the bank and its subsidiaries to continue to expand the business.

SOUTHERN PACIFIC, Isle of Wight and South of England Royal Mail Steam Packet reports sharply

lower taxable profits of £239,000, against £733,000 for the first six months of 1985. Turnover was down from £4.9m to £4.14m. The company provides shipping and road haulage services. The interim dividend is being held at 4p. Compensation paid to redundant tug crews amounted to £131,500; the full payment will amount to £228,000.

CORTON BEACH, the Southport-based specialists foods, leisure and automotive group, reports profits of £51,397 for the 30 weeks to July 28, 1985, compared with £1,758 in the 26 weeks to June 30, 1984. At the year-end, the company's losses were £12,300. First-half turnover was £3.54m against £1.92m in the previous 12 months. The directors say the second-half has started well and a satisfactory result for the period to January 31, 1986 is confidently anticipated.

NESCO INVESTMENTS, the motor dealer and Nigerian electricals supplier, reported pre-tax profits for the year to the end of March 1985 up from £510,000 to £664,500, despite turnover falling from £9.94m to £9.4m. Operating profit came out at £516,000 (£505,000) with interest received of £87,000 (£79,000) and interest charges and similar of £21,000 (£13,000). After tax £259,000 (£256,000) and earnings per share were 4.04p (£0.8p) net and 4.27p (£0.84p) on a nil basis.

14,000 G. P. Knowles 4,000 E. E. Taylor 57,000 Mrs E. E. Taylor purchased 10,000 shares.

DVT Group — On September 19, the following directors sold shares in the above named company: F. J. Crook 50,000, D. A. Hunt 50,000, L. Whitford 50,000, and Spencer 4,000.

Laidlaw Group — Chairman T. M. Robertson has sold 155,000 shares and his personal holding is now 1,795,300 shares, which when combined with his wife's shareholding of 375,000 shares represents 25.4 per cent.

Petroleum Group — P. G. P. Hodgson, chairman and chief executive, has acquired a further 30,000 ordinary shares and now holds 1,947,150 shares. His non-beneficial holding remains at 180,000 shares.

Low Howard-Spink Campbell-Ewald Holdings — On June 4 director L. Delano acquired a holding of 35,000 shares at 2.75p and on July 16 director D. Jones purchased 10,000 shares at 25p and now holds 301,525 shares.

Regan Property Trust — D. M. Anderson, a director, has sold 50,000 shares and now holds 2,690,000.

Courtney Pope rises 36% to £2m

PRE-TAX profits for Courtney Pope Holdings, the London shopping and electrical contractor, rose by 36 per cent in the year to the end of May, 1985 from £1.55m to £2.1m. The result was achieved on turnover £9.5m higher at £39.96m.

The board says the excellent performance was the result of hard work and effort throughout the group, together with the capital investment in the last two years.

From earnings per 20p share of 31.16p (30.49p), the board is recommending a final payment of 3.5p, up from last year's 4.5p, making the total 8.5p (6.5p).

Currency fluctuations help Liberty to £0.9m

WORLD CURRENCY fluctuations were favourable to Liberty's UK subsidiaries in the half-year to August 3, 1985, thus helping the company's retail sales to overseas visitors to London, and aiding its wholesale company to increase exports by over 60 per cent.

Liberty, one of London's leading departmental stores—it also has branches throughout the UK and in Amsterdam, Chicago, Dallas, New York, Pennsylvania and Washington DC—reports a substantial increase in pre-tax profits for the opening half. These rose from £226,000 to £394,000 on turnover up from £19.54m to £25.25m, excluding VAT.

£438,000 to £1,07m. The pre-tax figure was after lower interest charges of £172,000 (£213,000). Tax, up to £420,000, and there were minorities of £3,000 against £3,000.

Stated earnings per 25p share of this class company were 6.56p (£0.7p), and the interim dividend is raised from 1.2p to 1.8p. The board looks forward, with confidence, to reporting a satisfactory year's trading. The greater part of the company's profits are realised during the second half, and the level of sales since the end of the first half is encouraging, and the wholesale order book shows an acceptable volume increase.

Trading profits increased from

Metropolitan Life Insurance Company

has acquired

Albany Life Assurance Company Limited

from

American General Corporation

The undersigned initiated this transaction and acted as financial advisors to Metropolitan Life.

The First Boston Corporation
Credit Suisse First Boston Limited

September 1985

US \$200,000,000

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(Incorporated with limited liability in the Netherlands Antilles)

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Guaranteed on a Subordinated basis by

Continental Illinois Corporation

(Incorporated with limited liability in Delaware, USA)

In accordance with the provisions of the Notes and the Reference Agency Agreement between Continental Illinois Overseas Finance Corporation N.V. and Citibank, N.A., dated June 24, 1982, notice is hereby given that the Rate of Interest has been fixed at 8 1/4% p.a. and that the interest payable on the relevant Interest Payment Date, December 31, 1985, against Coupon No. 14 will be US\$209.24 in respect of US\$10,000 nominal amount of the Notes.

September 30, 1985, London

By: Citibank, N.A. (CSSI Dept.), Agent Bank **CITIBANK**

REPUBLIC OF FINLAND

U.S.\$100,000,000 Floating Rate Notes Due 1990

Notice is hereby given that the interest payable on the Interest Payment Date, October 31, 1985, for the period April 25, 1985 to October 31, 1985 against Coupon No. 1 in respect of U.S.\$10,000 nominal of the Notes will be U.S.\$433.69.

September 30, 1985, London

By: Citibank, N.A. (CSSI Dept.), Agent Bank **CITIBANK**

FINANCIAL TIMES STOCK INDICES									
	Sept. 27	Sept. 28	Sept. 29	Sept. 30	Sept. 1	Sept. 2	1985 High	1985 Low	Since Completion Low
Government Secs.	63.98	69.06	63.79	65.77	64.02	65.39	69.06	76.08	127.4
Fixed Interest	99.16	99.20	99.10	99.10	99.15	99.65	99.30	92.17	160.4
Ordinary	989.0	970.1	980.6	982.7	980.3	1002.8	1024.5	911.0	1024.5
Gold Mines	301.0	301.0	300.5	310.3	312.9	310.6	330.9	308.1	734.7
FT-Act All Share	682.37	618.05	612.99	683.89	689.35	631.45	646.89	591.28	646.82
FT-2500	1990.7	1970.6	1970.3	1980.1	1992.1	1996.7	1940.5	1806.1	1942.4

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RECENT ISSUES

RECENT ISSUES

EQUITIES

Issue Price		1985		Stock		Closing Price		+ or -		Div. Yield		Times Covered		Dividend	
Amount	Paid Up	High	Low	High	Low	Change	Vol.	Div.	Yield	Div.	Yield	Div.	Yield	Div.	Yield
534	F.P. 200	154	154	154	154	Anglo Ind. Dev.	41	---	11.0	2.1	5.0	1.5	1.5	1.5	1.5
155	F.P. 100	155	155	155	155	Birdseye Pkg. Ord.	126	+	11.0	3.0	0.8	0.4	0.4	0.4	0.4
156	F.P. 100	156	156	156	156	British 10p	126	+	11.0	3.0	0.8	0.4	0.4	0.4	0.4
157	F.P. 100	157	157	157	157	Business Mort. Tr.	126	---	11.0	5.0	1.5	1.5	1.5	1.5	1.5
158	F.P. 100	158	158	158	158	Greenwich Resources	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
159	F.P. 100	159	159	159	159	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
160	F.P. 100	160	160	160	160	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
161	F.P. 100	161	161	161	161	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
162	F.P. 100	162	162	162	162	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
163	F.P. 100	163	163	163	163	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
164	F.P. 100	164	164	164	164	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
165	F.P. 100	165	165	165	165	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
166	F.P. 100	166	166	166	166	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
167	F.P. 100	167	167	167	167	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
168	F.P. 100	168	168	168	168	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
169	F.P. 100	169	169	169	169	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
170	F.P. 100	170	170	170	170	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
171	F.P. 100	171	171	171	171	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
172	F.P. 100	172	172	172	172	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
173	F.P. 100	173	173	173	173	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
174	F.P. 100	174	174	174	174	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
175	F.P. 100	175	175	175	175	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
176	F.P. 100	176	176	176	176	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
177	F.P. 100	177	177	177	177	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
178	F.P. 100	178	178	178	178	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
179	F.P. 100	179	179	179	179	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
180	F.P. 100	180	180	180	180	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
181	F.P. 100	181	181	181	181	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
182	F.P. 100	182	182	182	182	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
183	F.P. 100	183	183	183	183	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
184	F.P. 100	184	184	184	184	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
185	F.P. 100	185	185	185	185	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
186	F.P. 100	186	186	186	186	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
187	F.P. 100	187	187	187	187	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
188	F.P. 100	188	188	188	188	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
189	F.P. 100	189	189	189	189	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
190	F.P. 100	190	190	190	190	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
191	F.P. 100	191	191	191	191	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
192	F.P. 100	192	192	192	192	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
193	F.P. 100	193	193	193	193	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
194	F.P. 100	194	194	194	194	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
195	F.P. 100	195	195	195	195	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
196	F.P. 100	196	196	196	196	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
197	F.P. 100	197	197	197	197	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
198	F.P. 100	198	198	198	198	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
199	F.P. 100	199	199	199	199	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5
200	F.P. 1	---	---	---	---	Imperial Ind. 4p	126	---	11.0	5.0	2.0	1.5	1.5	1.5	1.5

FINANCIAL TIMES SURVEY

Monday September 30 1985

Management Education and Training

Fundamental assumptions about approaches to management development need re-examining as courses proliferate under pressure from changes in patterns of work and organisation

Time to stop and think

MANAGEMENT EDUCATION and training are at a crossroads — an exceedingly busy crossroads. New courses and less conventional study programmes continually arrive on the scene in bewildering variety.

Almost all rely to some extent on advances in information-handling technology. An increasing number are the "distance learning" type: the electronics age successors of the correspondence course. They combine video, programmed texts and "on tap" tuition to enable working managers to raise qualifications — even to the level of a master's degree in business administration — by studying largely at home.

With so much activity the people involved, whether suppliers or customers, are understandably reluctant to stop and think deeply. But it is important that they do so. Since a crossroads has been reached, pressing on is liable to send them in the wrong directions.

The thinking needs to be fundamental. For management education and training have not arrived at the crossroads entirely by their own choice. They have been carried there by forces changing the whole pattern of work and organisation.

While the change is greater in some parts of the world than others, in older industrialised countries it threatens to be little short of seismic in its effects. What can be done, and the

means of doing it, are altered by technological development, so the people do seem bound to be increasingly different. It will include various kinds of job which are primarily managerial. But what kinds?

There is a consensus among experts that many managerial jobs of the future will bear relatively little resemblance to the bulk of existing ones.

This survey was written by
MICHAEL DIXON,
Education
Correspondent

Requirements of skill and understanding will be different, and so will be much of the education and training that future managers need. But in what ways different? Such questions cannot be answered with certainty, not even by a business school professor of long-range planning. Merely to ask them, however, is to indicate the need to re-examine fundamental issues, including several rarely questioned assumptions underlying approaches to management development.

One of those assumptions can be brought destructively into play by the mention of "education" and "training."

In Britain, perhaps more than some other countries and especially West Germany, many people do not take education and training to be merely different activities: they view them as superior and inferior activities respectively.

Education is widely regarded as identifying and developing intellectual powers not only to appreciate the finer points of life but also to decide what sort of things need making and doing and how they should be made and done. Training tends to be seen as a lower-order activity, able at best to equip people for the inferior work of making and doing things.

The ranking coincides with the common assumption that, for the purposes of collective human effort, nature has arranged for people to be born into one of two sub-divisions.

The minority group consists of thinkers born with the potential to carry out the intellectual tasks of identifying, planning and organising what work is to be done: that is, the tasks of management.

The majority, less well endowed intellectually, was born to follow the thinkers' instructions in making the goods and services. (By "making" that also means "doing" activities such as selling, the object of selling is to make good deals.)

The sub-division into thinkers and makers probably underlies the belief (fortunately less



widespread than a few years ago) that middle and senior management jobs should be restricted to people who rise successfully through the tiers of academic education to emerge with a master's degree in business. The counterpart view is that management training is mainly for the pre-designated lower-rankers.

But to look on education and training as superior and inferior is wrong. For if "training" has any sensible definition it is surely as "the imparting of specific skills."

Reading, writing and numbering are specific skills and since nobody is born with them, they need to be imparted before education can start. Even when people have attained a particular level of education, they are

often unable to progress without training in additional skills. For instance, a school-leaver promising at geography may need training in statistics before being able to gain a degree.

Training is both fundamental to education and inseparable from it. Continuing to regard one as intrinsically better than the other can only hamper the development of capable adults.

Continuing to regard the workforce as thinkers or makers bodes ill for the economic prospects of a country like Britain. The division follows bureaucratic forms of work organisation which may have served well when countries could rely heavily for their living on the mass production of standard goods.

But unless we can replace

British characteristics with those of the Japanese (or better still the South Koreans) we cannot rely so much on the existing bulk production of goods and services. We shall need to invent, develop, make and market new ones.

The writing is already on the wall. Although government departments continue to organise around the thinkers/makers division, in the business sectors bureaucracies are being torn down.

It is not long since the majority could depend on joining an organisation and being handed a ready-made job. It looks as though fewer will be able to do so in future. A growing number will need to support themselves, not by joining organisations, but by making



A tough haul (left) for managers solving practical problems at the Leadership Trust, founded by former SAS man David Gilbert-Smith. At home (above), electronic aids are taking over from correspondence courses, enabling working managers to raise qualifications.

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For 1986, Oxford offers you two ways of looking at the world of business

A view from America

Advanced Management Programme

6 July-15 August 1986

The Advanced Management Programme is a six-week programme concerned with the overall development of the business enterprise and the determination and implementation of corporate strategy. It is designed for managers whose problems involve the coordination and direction of the different functional parts of a business, where the need is not to know more about their own function but to understand the problems and thinking of managers in other functions of the business.

Case Studies

The course is taught by a visiting faculty of Senior Professors from America's finest business schools, using more than 100 case studies. The style of the programme is to immerse the participants in the analysis of real business situations and to have them argue their individual analyses among themselves in their discussion groups and in class.

AMP For twenty-one years the AMP has provided the very best of American teaching style in a European setting, working with Professors drawn from the Harvard Business School, MIT, Dartmouth, Northeastern and Bentley. Since 1963 AMP has been based at the Oxford Centre for Management Studies.

Price: £5,250 residential, all materials included.

Faculty Chairman: Paul Vetter

Enquiries to Anna Lever

A view from Oxford

Senior Managers Development Programme

19 January-21 March 1986

The Senior Managers Development Programme is a nine-week residential programme for a limited number of experienced managers who are expected to make significant contributions to their organisation's future success.

They come from a wide range of institutions and from many different countries. Participants are selected to produce a balance between British and overseas managers. Particular care is exercised in choosing an appropriate spread of international participants to give the course a world view.

Seminars and Tutorials

The programme is structured in two parts. A five-week CORE deals with a broad sweep of general management topics, ending in a week which sets management in its international context. The 'OPTIONS' period of four weeks offers a choice of lectures, a close relationship with a tutor and a range of visits tailored to the individual managers' needs to go deeper into his specific areas of interest.

The Oxford University Certificate in Management Studies Completion of the Senior Managers Development Programme entitles participants to apply to the University to undertake a management project and to submit for examination their report for the Oxford University Certificate in Management Studies.

Price: £5,750 residential, all materials included.

Directors: Tony Hartley and Roger Underhill

Enquiries to Mary Faines

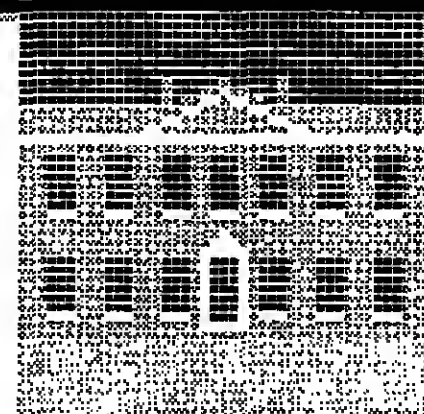
In addition to its teaching of undergraduates and postgraduates and its traditional specialisation in tailor-made programmes for companies, the College offers a comprehensive range of public programmes. New courses available this year include **Successful Global Management, Managing Major Projects, Financial Planning and Forecasting, Employee Relations: policy and practice in the modern corporation, Design in Retailing, Retail Location Analysis** and the **Oxford Aspen Seminar**. For full details of these and other activities at the College write to the Associate Dean.

Templeton College

The Oxford Centre for Management Studies

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The Director,
Urwick Management Centre,
Baylis House,
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Slough, Berks, SL1 3PF.

Price Waterhouse

Ten steps on the ladder of power

Politics

LEADERSHIP courses have multiplied in line with chief executives' wishes for more effective supporting staff, but there is still a lack of courses in organisational politics. Yet successful managers owe a lot to their political skills.

Professor Robert Sternberg, a psychologist at Yale University, has studied managers' knowledge of three key aspects of their jobs:

● How to manage their own work by setting the right priorities.

● How to manage subordinates.

● How to manage their "career" in terms of ensuring that their superiors see their performance as effective, whether it is or not.

Of the three, he has found that the ability to manage one's career is the one most decisively linked to success in managerial jobs.

Since the professor's findings confirm what many experienced

executives knew already, the dearth of courses in internal politics may seem strange. The main reason for the lack is perhaps that company chiefs are chary of having training politicians under them, preferring to believe they run their own show without manipulation from below.

Even the few courses which include sessions on the topic tend to disguise it under names such as "effective communications." There appears to be a general belief that the best way to treat organisational politics is to sweep them under the official carpet.

A rare exception in the training field is Dr Virginia Schein, a U.S. management consultant, who taught at Yale and at the Wharton Business School before branching out on her own.

When teaching about the workings of company politics, Dr Schein takes an attitude resembling that of an experienced biology teacher discussing the natural functions. She cannot see that there is anything to be ashamed about.

No matter how rational a company's organisation chart

may be, managers continually have to work against political opposition, she says. To be effective, especially in getting changes made, they must know their political power bases and how to use them — even to the extent of deceiving colleagues likely to frustrate their aims.

The power bases are of seven main kinds, each having risks as well as advantages.

First comes expertise, or being seen by the company as the only person who could cope with some type of crisis. Expertise can be exploited politically if it is supposed to lie in some area which the organisation has recognised as a problem or opportunity.

The danger is that experts can over-reach themselves, particularly if they make too much play with jargon, as well as be undermined by adroit colleagues.

One undermining tactic is to represent the expert to top management as over-worked and in need of help from people under someone else's control.

Dr Schein's name for the second power base is "assessed stature." It boils down to having a general reputation as a winner. Its flaw is that, like the rainbow, it comes and goes.

While achievable by deft publicising personal successes, it is made hard to maintain by the near impossibility of keeping secret inevitable failures.

The third base, credibility, depends much on winning prominence outside the company through such vehicles as professional institutes, local government and charitable works.

The snag is that the value set by the company organisation on external activity depends on the attitudes of senior management, which are prone to change. What was credibility last Friday night may be absurdity on Monday morning.

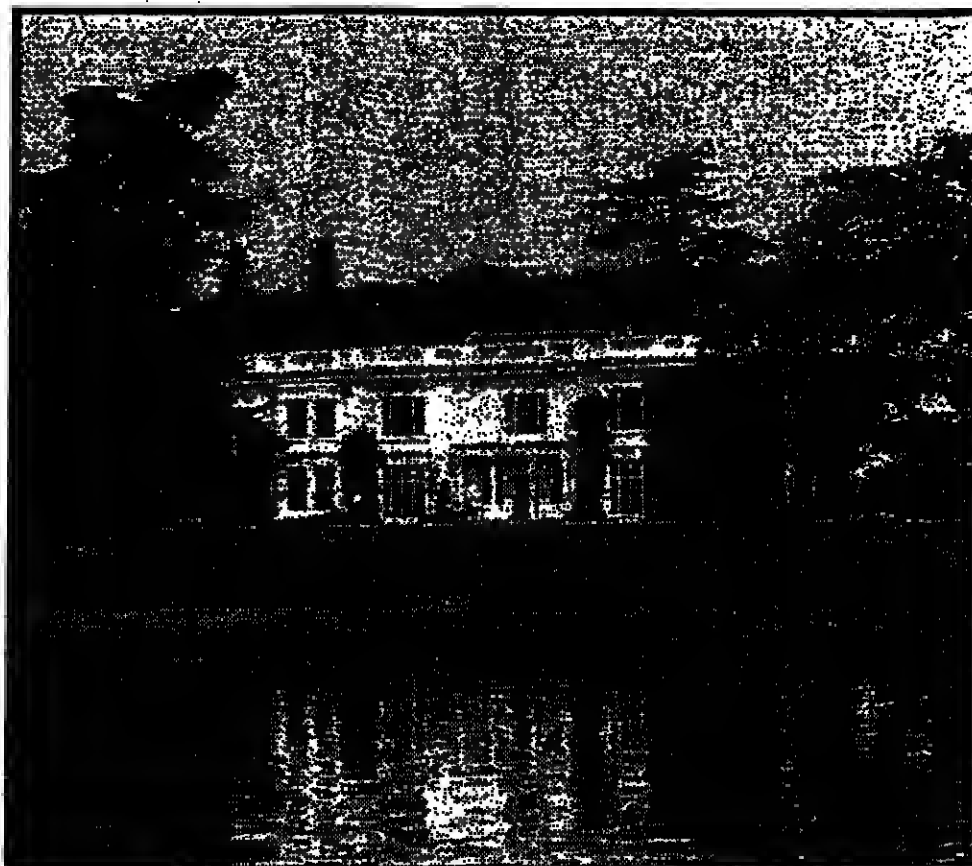
The fourth base is information.

Next comes the base of mobility, or the possession of skills readily transferable to some other job. But if managers make their mobility too visible, their chiefs may decide to dispense with and replace them quickly rather than risk having them leave at some later and less convenient date.

The fifth base is control of information. A good way to build it up is to develop external sources of data which few, if any, colleagues are likely to get. The outside intelligence can then be sat on, traded with colleagues for further information, or passed on to them in accurate or distorted versions.

Would-be intelligence controllers have an increasing problem in the form of computer technology which tends to diffuse incoming data more widely through organisations. That may be why executives responsible for installing new technology in their companies say they expect as much resistance from colleagues in middle and senior management as from trade unions.

But the other two of Dr Schein's power bases seem likely to be more durable.



Henley Management College, overlooking the Thames

The sixth is called political access. It is attained by cultivating an underground network of friendships by "let-for-letting" with colleagues in other sections, no matter how low their rank. An undercover agent in even a minor job in a neutral department might swing its support crucially in case of need.

Informal links also greatly increase one's prospects of discovering what is going on.

The danger is that managers who too obviously cultivate a wide network of friendships might be seen as insufficiently loyal by their own departmental colleagues.

The result could be a loss of the seventh power base—group support. It consists in having the manager's domain united in unwavering pursuit of his or her important aims. A particularly effective way of earning group support is to convince everybody in one's department that the rest of the organisation is plotting their ruin.

Once the most appropriate power bases have been built, they can be exploited in 10 main ways.

The first is to develop well-advised formal links with whichever departments are important to the manager's schemes. Such links can serve as a deterrent to the use of isolating tactics by opponents.

The next is to present a conservative image. Enthusiasm in a manager needs only a little unwarranted aid by adversaries to be seen by senior levels as near-insanity. It is best to phrase important proposals so that they appear only a modest adjustment to the status quo, and to concentrate on unimaginative aspects such as the prospect of financial benefits all round.

The third is to bring identifiable opposition into the open. If opponents are obviously invited to air their views at a meeting of all involved, their strength can often be dissipated.

"Allying with powerful others" is fourth. It does not mean only courting the advance approval of top management.

Time is also well spent in seeking to "understand" the problems of key staff elsewhere in the company.

From that follows spearheading one's own proposals with measures ostensibly designed to reduce colleagues' difficulties, especially if these are trivial.

To paraphrase the rugby football maxim: get your reciprocation in first.

Tactic

Sixth comes stalling while the iron is hot. Politicking through one proposal successfully can often ease the passage of another. If the second scheme is controversial and has been rejected, it can still be got through sometimes if it is camouflaged as a consequence of the one which has just been approved. This tactic, Dr Schein's seventh, is called using a neutral cover.

An allied tactic may be to limit the outflow of information about the scheme. Plans which would call forth determined opposition if revealed in their full glory frequently go through on a series of pods if unveiled piecemeal as a catch a tartar.

sequence of apparently self-contained parts.

The ninth play is research. It consists in setting up a study of one's proposed scheme to produce "hard data" which, whenever practicable, should be true.

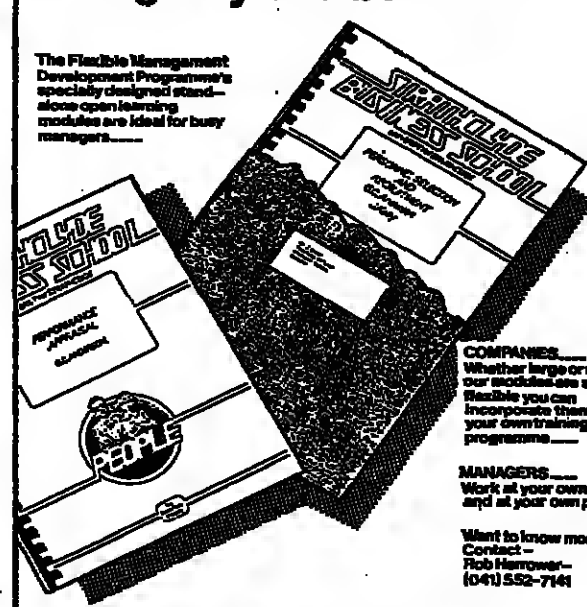
Either way, discussion of the data with other people should always be introduced with the words: "Well, here is the evidence. I am not inclined to believe all of it myself. But we cannot just ignore it if I suppose."

Sometimes a manager who has brilliantly politicised a pet scheme through to approval will suddenly be faced with strong competition from someone else to take the project over. In that case Dr Schein thinks it may be best to use the last of her tactics—withdrawal.

If there is any appreciable risk that one's scheme will turn out a failure it is usually wisest to try to manipulate someone else to volunteer to take it over. Of the various ways of preserving a power base, few are better than leaving others to compete for the right to

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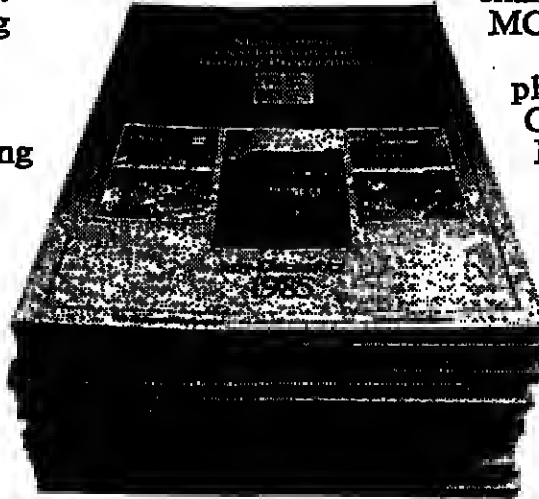
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INDUSTRIALS—Continued

"Recent Issues" and "Rights" Page 18
(International Edition Page 22)

INTERNATIONAL APPOINTMENTS

Management changes at American Brands

BY PHILIP HALLIDAY

AMERICAN BRANDS, the U.S. tobacco and packaged foods group, is in restructuring its management from January 1 1986.

Mr William J. Alley, executive vice-president and chief financial officer, is to become vice-chairman. In this new position Mr Alley will oversee group strategy.

Mr Alley, who has been a director of American Brands since 1979, will continue as president and chief executive

officer of Franklin Life Insurance, the financial services subsidiary of American Brands.

Mr Arnold Hanson, senior vice-president and chief counsel, will succeed Mr Alley. Mr Paul Randour, a partner in the law firm Chadbourne, Parke, White, and Wolf, where he handled the affairs of American Brands, will become senior vice-president and chief counsel.

Mr Robert J. Rukeyser, vice-president, public affairs, will become vice-president, office pro-

ducts, a new position, and will become a director.

The changes, which the company said would provide greater management continuity, are part of a major organisational restructuring plan.

Under the terms of the plan, which is subject to stockholders' approval in December, American Brands is to become a holding company and all its operating units, among them Gallaher, the UK cigarette producer, are to become subsidiaries operating as autonomous units.

Baschnagel announces retirement

By John Wicks in Zurich

MR HUBERT BASCHNAGEL, head of the foreign exchange, precious-metal and money-market division of Swiss Bank Corporation, is to retire for health reasons at the end of next March. He has been with the Basle-based bank for 36 years, eight of them as a senior vice-president and five as a member of the executive board.

With a view to taking over Mr Baschnagel's position in Zurich, Baschnagel is to be transferred there as a central manager at the start of January. He will himself be replaced as manager of the Geneva branch by Mr Charles Joerg.

New general manager at Sulzer

By Our Financial Staff

MR RICHARD BURGER, currently head of pumps division of Sulzer, the Swiss-based engineering company, is next May to be made a general manager of the Swiss parent company Sulzer Brothers and a member of the group management committee.

At the same time, Mr Burger will be given responsibility for the group's corporate development division. His membership of the management committee marks an up-grading of this division, which will steer research and development work, as well as such other activities as robot systems and surface technology.

Mr Burger will himself be succeeded in the pumps division by Mr Jürg Hoyer, while Dr Viktor Leber will be made head of the heating and air-conditioning division.

Nordfinanz chooses new head

MR KURT SCHILTKNECHT, formerly chief economist of the Swiss National Bank, is to become the new head of the management committee of Nordfinanz-Bank, the Zurich bank controlled by Kansallis-Osake-Pankki, Finland's leading commercial bank.

Mr Schiltnkecht will succeed Mr Benet Uggla, who is to retire from the top executive position. Mr Schiltnkecht joined Nordfinanz-Bank this March.

Enagas names new chairman

BY DAVID WHITE IN MADRID

ONE of the Spanish negotiating team which settled the terms for next year's EEC entry, Sr Juan Badosa, has been named as the new chairman of Enagas, the national gas company.

Sr Badosa, 40, was up to cow director-general for its policy at the economy and finance ministry. Besides the EEC talks,

he was also involved in negotiations with Algeria which resolved a long quarrel over Spanish natural gas imports earlier this year.

The appointment is in line with a recent trend towards placing director-general for its policy at state-owned companies rather than independent businessmen.

UAL in moves to strengthen management

By Our Financial Staff

UAL, the parent of United Airlines, the largest U.S. carrier, has made changes to its management structure.

Mr James Hartigan, president of United Airlines, will take the additional post of chief executive officer. Mr Hartigan will be in charge of the airline's day-to-day operations and oversee the proposed merger with Pan Am's Pacific operations. Department of Transportation approval for the merger is expected by the end of October, the company said.

Mr John Cowan, executive vice-president of finance for United Airlines, will become chief financial officer and vice-chairman of UAL. The post of chief financial officer is a new one.

Mr Richard J. Ferris remains chairman of United Airlines and chairman, chief executive officer and president of UAL.

Mr Frank Olson, chairman and chief executive officer of Hertz Corporation, the car rental agency acquired by UAL in August, will become a director of UAL.

Henry Slack named as new president at Minorco

BY OUR FINANCIAL STAFF

MINERALS AND RESOURCES CORPORATION (MINORCO), the Bermuda-based international investment group controlled by South Africa's Anglo American Corporation and De Beers Consolidated Mines, has named Mr Henry R. Slack president.

Mr Slack, who has been a director of Minorco since 1981, succeeds Mr H. Ronald Fraser who is retiring. Mr Fraser will continue as a director.

BOND CORPORATION, the Western Australian brewing, property and resources group, has appointed two Sydney-based executive directors to the board.

Mr Bill Waterberg has been appointed executive director to head brewing division, which will consist of the new brewing acquisition Cymestaine Tooeys as well as the existing Perth-based Swan Brewery.

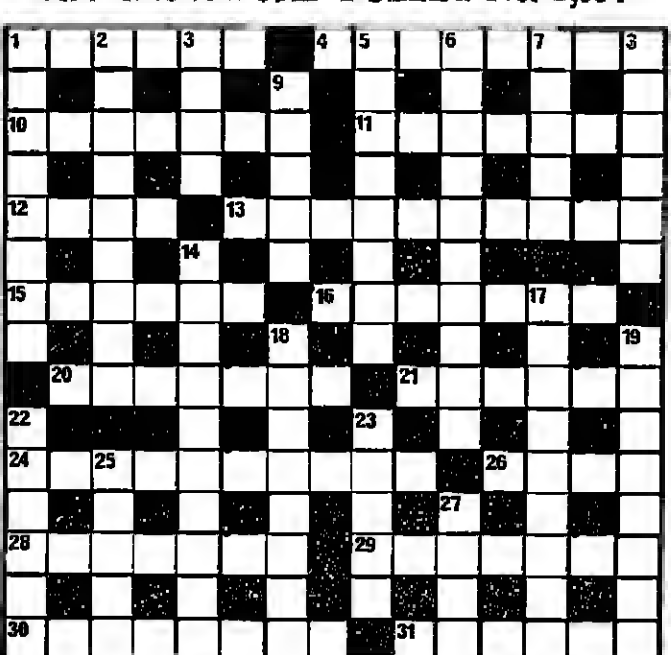
Mr Peter Lucas has been appointed executive director to head the coal operations and the Waltons Bond retailing division.

EASTERN AIRLINES, the Miami-based carrier, has named Mr Joseph B. Leonard president and chief operating officer.

who were favoured at the start of the socialist administration three years ago.

Sr Badosa previously held a Research post at the Ministry of Commerce and worked at the Spanish embassy in Warsaw during the last centrist administration.

F.T. CROSSWORD PUZZLE No. 5,834



- ACROSS**
- 1 Urge on visibly—if audibly (6)
 - 4 Seen through a glass lightly? (8)
 - 10 Complicated counter beat (7)
 - 11 Run into some of the defence (7)
 - 12 Lean Lathario? (4)
 - 13 His success is proved by capital gains (4-6)
 - 14 Sorted out and put away (6)
 - 16 Seek laid out in Scots valley (7)
 - 20 It results in a free kick for the away team (7)
 - 21 In opera Eugene shows singular spirit (3, 5)
 - 24 Divine, the French crew's accommodation (10)
 - 26 A near-sighted gathering (4)
 - 28 Treacle pudding for a tragic girl (7)
 - 29 Mouse-catcher not yet used in the plant (7)
 - 30 Rome's incorrectly placed in England (8)
 - 31 Ridiculed for being poorly dressed (8)
- DOWN**
- 1 It could be simple curiosity (8)
 - 2 Putting in time at this is fun (5-4)
 - 3 A picking-up point (4)
 - 5 One who takes off from Port Said (8)
 - 6 How Italian and German cipher directions become insecure (4, 6)
 - 7 Respond to a trace of difference (5)
 - 8 Money boxes? (6)
 - 9 Not so many, we infer (5)
 - 14 Our respect will be misplaced for such an oppressor (10)
 - 17 Flashy sort of striker (9)
 - 18 It may be regarded as a form of curiosity (3, 5)
 - 19 Introduced the new resident (8)
 - 22 Where T. comes for pudding (6)
 - 23 A wedge shot that doesn't go straight (5)
 - 25 Rhubarb he planted in a strange setting (5)
 - 27 Mount hotly-tipped, doesn't always run (4)
- The solution to last Saturday's prize puzzle will be published with names of winners next Saturday.

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UK APPOINTMENTS

Distillers makes changes

Mr J. D. S. Purves has been appointed to the board of THE DISTILLERS COMPANY, an October 1 and will assume responsibility for personnel, health and safety, and legal services.

Mr D. A. Connell, managing director of John Walker and Sons, will succeed Mr P. N. Whitley, a main board marketing director, on his retirement in September 1986. Mr Connell will join John Walker and Sons on January 1, 1986 and will succeed Mr Connell as managing director.

On November 1 Mr P. L. Clifton, a director of John Walker and Sons, will succeed Mr D. W. Small as managing director of John Dewar and Sons.

Mr C. N. Younghouse, managing director of James Buchanan & Co. will retire in April 1986 and will be succeeded by Mr A. D. Oseroff, currently a director of John Walker and Sons. From January 1, 1986, Mr Oseroff will become managing director of Macdonald Greenlees, in succession to Mr Ross. Mr Oseroff is at present managing director of J. and C. Stewart and will be succeeded by Mr I. E. Read of Low, Robertson and Co.

Mr Ernie Wheldon, who has been president of the ROYAL TELEVISION SOCIETY since 1979, is retiring. Mr Paul Fox, managing director of Yorkshire Television, has accepted the Society's offer to succeed him.

Mr Roberto Segre has been appointed managing director of TABS, a microcomputer chain.

From October 1, Dr H. A. Klein has been appointed a director of TOUCHE, REMNANT & CO and investment director of Touche Remnant. He is deputy investment manager of Shell Pension Funds. The Hague. Total funds under management from Holland are about £3hm.

Mr Miles Templeman has been appointed managing director of THREESIER, WINE & CHANTS from the end of September. He succeeds Mr Law Parke for personal reasons has asked to retire a year early. Before joining Thresher in June as deputy managing director with responsibilities for sales, marketing and personnel, Mr Templeman was director of marketing for Levi Strauss. Mr Parke is to remain a non-executive director and as a director of Whitbread retail division until his normal retirement date.

BRITANNIA INVESTMENT SERVICES has appointed Mr Paul Field as managing director of a new subsidiary, Britannia

Administration Services. He was managing director of Save & Prosper in Jersey. Mr D. C. Hyatt has been appointed deputy chief investment director of Britannia Asset Management.

Mr R. L. Mitchell, formerly head of the south eastern region of the BRITISH GAS CORPORATION, from September 30. He is currently director of engineering of West Midlands Gas.

SHANKS & McEWAN (CONTRACTORS) has appointed three new directors: Mr A. D. (Sandy) Robertson will be responsible for waste collection and disposal; Mr Ken Morin for technical services (quarries) and operations at BSC Clydesdale Works; and Mr Alan Gordon Walker has been appointed a director of HODDER & STOUGHTON HOLDINGS from October 1. He remains managing director of Hodder & Stoughton Publishers.

Mr T. J. Nardicchia has been appointed managing director of WARKFORD INVESTMENTS.

Mr John Perkins, commercial director, will head the CADBURY TYPHOOO foods business centre, and Mr Paul Sands personnel director, becomes the new deputy director of Cadbury Typhoo.

Mr Alan Charlesworth, managing director of Mintel Publications, market research analysis, has been appointed to the board of its parent company, the KAE GROUP. Mrs Bridget Garnett and Mrs Janet Gilks have been appointed directors of Mintel Publications.

Mr Michael Chapman, previously an assistant general manager, corporate finance division, MIDLAND BANK, has been appointed a general manager, group risk management. He succeeds Mr Michael Wallis, who is retiring.

Mr Barry Spencer, controller of sales at Thames Television, is leaving the company to become new business director at media buying agency, ALL MEDIA SERVICES, from October 1.

Mr Peter Johnston has been appointed general manager, LLOYD'S. He was previously in managerial positions at both Sun Alliance Insurance Group and MEPC.

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OPTIONS

month call rates

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Scandinavian Finance B.V.
(Incorporated in the Netherlands with limited liability)

£20,000,000

Sterling Floating Rate Notes 1990

Guaranteed, on a subordinated basis by

Scandinavian Bank Limited
(Incorporated in Great Britain with limited liability)

For the three months

27th September, 1985 to 27th December, 1985

In accordance with the provisions of Notes, notice is hereby given that the rate of interest has been fixed at 11 1/4% per cent and that the interest payable on the relevant interest payment date, 27th December, 1985 against Coupon No. 22 will be £29.45.

Agent Bank:
Morgan Guaranty Trust Company
London

CM&M

Carroll McIntee & McGinley Incorporated

Money Market Division

would like to announce
that we will be quoting

Euro Dollar C.D. rates
effective October 1, 1985
from our London office.

Contact Haris Moteldes, V.P.
at 01-588-2075

55 Moorgate Street, London EC2R 6BH

NOTICE OF REDEMPTION TO NOTHOLDERS OF
BANQUE FRANCAISE DU COMMERCE EXTERIEUR
US\$125,000,000

Floating Rate Notes due 1988

NOTICE IS HEREBY GIVEN that in accordance with condition "Redemption and Purchase" of the terms and conditions of the Notes, Banque Française du Commerce Extérieur has elected to redeem all of the Notes on the next interest payment date, September 30, 1988. The Notes will be redeemed at par value. On October 30, 1988 the Notes will cease to accrue interest.

The Notes will be redeemed upon presentation and surrender together with all documents, coupons, and interest after the date fixed for redemption at the offices of:

BANQUE GENERALE DU LUXEMBOURG S.A.
Rue d'Adolphe, Luxembourg
10100 Luxembourg
4210, Connaught Centre, 7, Connaught Place, Hong Kong
BANQUE NATIONALE DE PARIS (Banque Paribas) S.A.
2, Boulevard Royal, Luxembourg
BANQUE PARIBAS (Banque Paribas) S.A.
350, Park Avenue, New York City, N.Y. 10022
BANQUE PARIBAS (Banque Paribas) S.A.
21, Boulevard Haussmann, 75009 Paris, France
BANQUE PARIBAS (Banque Paribas) S.A.
10, Boulevard de la Woluwe, 1200 Brussels, Belgium
THE OVERSEAS BANK OF SINGAPORE LIMITED
One Raffles Place, Singapore 0105
THE SUMITOMO BANK LIMITED
3-2 Marunouchi, 1-Chome, Chiyoda-ku, Tokyo 100, Japan

Dated: September 30, 1985

BANQUE GENERALE DU LUXEMBOURG—SOCIÉTÉ ANONYME
BANQUE FRANCAISE DU COMMERCE EXTERIEUR

INVESTMENT & EXPATRIATE GUIDES

INVESTOR'S GUIDE TO THE STOCK MARKET
by Gordon Cummings

This book provides a valuable core of knowledge for those who manage their personal capital and savings in the stock market. It covers the make-up of the market, the way it operates and the technique of successful dealing. Whether you are an experienced, new or potential investor this book is essential.

Published August 1985. Price: £8.75 UK/£10.25 overseas.

INVESTING FOR BEGINNERS
by Daniel O'Shea

Analyses the basic principles of stock market investment, discusses the different categories of quoted investment, examines a whole range of related essentials such as interpretation of company accounts and gives an up-to-date review of relevant tax rules.

Published June 1985. Price: £8.75 UK/£10.25 overseas.

WORKING ABROAD — The Expatriate's Guide
by David Young

Catering for the needs of expatriates and their advisors, this handbook gives vital details on the employment conditions overseas, and will guide you through the complex financial and domestic preparations necessary when leaving the country. A guide to the main expatriate centres is also included.

Published November 1984. Price: £12.50 UK/£14 overseas.

THE EXPATRIATE SURVIVAL KIT

For intending expatriates, their employers, and their advisors, the KIT provides detailed information on: taxation; National Insurance; UK property; employment contracts; insurance policies; education; overseas removals; forms for tax rebates; forms required by the Dept of Health & Social Security; annotated lease agreements; inland Revenue & DHSS booklets. The KIT is contained in a high-quality plastic folder, indexed and classified for immediate access.

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3m points of 100%					Dac 0.6550 0.6610 0.6460 0.65				
					Mar 0.6500 " " 0.65				
					Dec 14 1125				
					FT-SE 100 INDEX				
					225 per 11k index point				
					Dec Close High Low Prev				
					Sept 128.05 129.40 127.80 127.80				
					Oct 129.00 129.00 128.00 129.00				
					Est. Volume 207 (783)				
					Previous day's open int. 1,753 (1,700)				
					\$5 5100.00 32nds at 100%				
THREE-MONTH STERLING					Dec Close High Low Prev				
2500.00 points of 100%					Dac 76-21 76-25 75-77 76-21				
					Mar 74-18 " " 74-18				
					Est. Volume 2,787 (3,655)				
					Previous day's open int. 2,796 (2,818)				

CHICAGO				
U.S. TREASURY BONDS (CBT) 8%				
\$100,000 32nds at 100%				
	Close	High	Low	Prev
Dec	73-13	73-25	73-06	73-13
Jan	73-13	73-25	73-06	73-13
Feb	73-13	73-25	73-06	73-13
Mar	73-13	73-25	73-06	73-13
Apr	73-13	73-25	73-06	73-13
May	73-13	73-25	73-06	73-13
Jun	73-13	73-25	73-06	73-13
Jul	73-13	73-25	73-06	73-13
Aug	73-13	73-25	73-06	73-13
Est. Volume 2,777 (2,770)	Previous day's open int. 6,591 (6,079)			
20-YEAR 12% NOTIONAL OIL				
\$50,000 32nds at 100%				
	Close	High	Low	Prev
Dec	112-00	112-00	112-00	112-00
Jan	112-00	112-00	112-00	112-00
Feb	112-00	112-00	112-00	112-00
Mar	112-00	112-00	112-00	112-00
Apr	112-00	112-00	112-00	112-00
May	112-00	112-00	112-00	112-00
Jun	112-00	112-00	112-00	112-00
Jul	112-00	112-00	112-00	112-00
Aug	112-00	112-00	112-00	112-00
Est. Volume 1,388 (2,576)	Previous day's open int. 3,480 (3,585)			
TREASURY 2004/08 (less equivalent price of 13 1/2%)				
TREASURY 2004/08 (less equivalent price of 13 1/2%)				
TREASURY 2004/08 (less equivalent price of 13 1/2%)				

10% NOTIONAL SHORT GILT				
100,000 points of 100%	Close	High	Low	Prev
Dec	96.24	96.24	96.24	96.24
Jan	96.24	96.24	96.24	96.24
Feb	96.24	96.24	96.24	96.24
Mar	96.24	96.24	96.24	96.24
Apr	96.24	96.24	96.24	96.24
May	96.24	96.24	96.24	96.24
Jun	96.24	96.24	96.24	96.24
Jul	96.24	96.24	96.24	96.24
Aug	96.24	96.24	96.24	96.24
Est. Volume 506 (864)	Previous day's open int. 1,254 (1,149)			

STERLING 25,000 0/100				
Close	High	Low	Prev	
Dec	1.3975	1.4100	1.3825	1.4100
Jan	1.3975	1.4100	1.3825	1.4100
Feb	1.3975	1.4100	1.3825	1.4100
Mar	1.3975	1.4100	1.3825	1.4100
Apr	1.3975	1.4100	1.3825	1.4100
May	1.3975	1.4100	1.3825	1.4100
Jun	1.3975	1.4100	1.3825	1.4100
Jul	1.3975	1.4100	1.3825	1.4100
Aug	1.3975	1.4100	1.3825	1.4100
Est. Volume 233 (200)	Previous day's open int. 2,823 (2,700)			

DEUTSCHE MARKS				
100,000 0/100 DM	Close	High	Low	Prev
Dec	0.3780	0.3780	0.3780	0.3780
Jan	0.3780	0.3780	0.3780	0.3780
Feb	0.3780	0.3780	0.3780	0.3780
Mar	0.3780	0.3780	0.3780	0.3780
Apr	0.3780	0.3780	0.3780	0.3780
May	0.3780	0.3780	0.3780	0.3780
Jun	0.3780	0.3780	0.3780	0.3780
Jul	0.3780	0.3780	0.3780	0.3780
Aug	0.3780	0.3780	0.3780	0.3780
Est. Volume 54 (375)	Previous day's open int. 435 (381)			

THREE-MONTH EURO-DOLLAR (1M)				
3m points of 100%	Close	High	Low	Prev
Dec	91.75	91.85	91.71	91.84
Jan	91.75	91.85	91.71	91.84
Feb	91.75	91.85	91.71	91.84
Mar	91.75	91.85	91.71	91.84
Apr	91.75	91.85	91.71	91.84
May	91.75	91.85	91.71	91.84
Jun	91.75	91.85	91.71	91.84
Jul	91.75	91.85	91.71	91.84
Aug	91.75	91.85	91.71	91.84
Est. Volume 1,388 (2,576)	Previous day's open int. 3,480 (3,585)			

THREE-MONTH STERLING				
3m points of 100%	Close	High	Low	Prev
Dec	89.35	89.35	89.35	89.35
Jan	89.35	89.35	89.35	89.35
Feb	89.35	89.35	89.35	89.35
Mar	89.35	89.35	89.35	89.35
Apr	89.35	89.35	89.35	89.35
May	89.35	89.35	89.35	89.35
Jun	89.35	89.35	89.35	89.35
Jul	89.35	89.35	89.35	89.35
Aug	89.35	89.35	89.35	89.35
Est. Volume 2,777 (2,770)	Previous day's open int. 6,591 (6,079)			

THREE-MONTH STERLING				
3m points of 100%	Close	High	Low	Prev
Dec	89.35	89.35	89.35	89.35
Jan	89.35	89.35	89.35	89.35
Feb	89.35	89.35	89.35	89.35
Mar	89.35	89.35	89.35	89.35
Apr	89.35	89.35	89.35	89.35
May	89.35	89.35	89.35	89.35
Jun	89.35	89.35	89.35	89.35
Jul	89.35	89.35	89.35	89.35
Aug	89.35	89.35	89.35	89.35
Est. Volume 2,777 (2,770)	Previous day's open int. 6,591 (6,079)			

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3m points of 100%	Close	High	Low	Prev
Dec	89.35	89.35	89.35	89.35
Jan	89.35	89.35	89.35	89.35
Feb	89.35	89.35	89.35	89.35
Mar	89.35	89.35	89.35	89.35
Apr	89.35	89.35	89.35	89.35
May	89.35	89.35	89.35	89.35
Jun	89.35	89.35	89.35	89.35
Jul	89.35	89.35	89.35	89.35
Aug	89.35	89.35	89.35	89.35
Est. Volume 2,777 (2,770)	Previous day's open int. 6,591 (6,079)			

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Dec	89.35	89.35	89.35	89.35
Jan	89.35	89.35	89.35	89.35
Feb	89.35	89.35	89.35	89.35
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Apr	89.35	89.35	89.35	89.35
May	89.35	89.35	89.35	89.35
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Dec	89.35	89.35	89.35	89.35
Jan	89.35	89.35	89.35	89.35
Feb	89.35	89.35	89.35	89.35
Mar	89.35	89.35	89.35	89.35
Apr	89.35	89.35	89.35	89.35
May	89.35	89.35	89.35	89.35
Jun	89.35	89.35	89.35	89.35
Jul	89.35	89.35	89.35	89.35
Aug	89.35	89.35	89.35	89.35
Est. Volume 2,777 (2,770)	Previous day's open int. 6,591 (6,079)			

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3m points of 100%	Close	High	Low	Prev
Dec	89.35	89.35	89.35	89.35
Jan	89.35	89.35	89.35	89.35
Feb	89.35	89.35	89.35	89.35
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Apr	89.35	89.35	89.35	89.35
May	89.35	89.35	89.35	89.35
Jun	89.35	89.35	89.35	89.35
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Aug	89.35	89.35	89.35	89.35
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Dec	89.35	89.35	89.35	89.35
Jan	89.35	89.35	89.35	89.35
Feb	89.35	89.35	89.35	89.35
Mar	89.35	89.35	89.35	89.35
Apr	89.35	89.35	89.35	89.35
May	89.35	89.35	89.35	89.35
Jun	89.35	89.35	89.35	89.35
Jul	89.35	89.35	89.35	89.35
Aug	89.35	89.35	89.35	89.35
Est. Volume 2,777 (2,770)	Previous day's open int. 6,591 (6,079)			

Morgan House, 7 Abchurch Lane, London, E.C. 4.	determined by the reference agent is 9% per cent per annum <i>namely</i> US\$206.59 per note of US\$5,000.
82 Franklin, Atlanta, Ga.	
at the designated rate less applicable taxes.	
This distribution is in respect of the regular quarterly dividend payable on the Common shares of J. P. Morgan and Company incorporated on the 15th October 1955.	
	Public Notices